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GUN VIOLENCE AND ADVOCACY COMMUNICATION

by

Minhee Choi

Bachelor of Arts  
Sogang University, 2008

Master of Fine Arts  
Sogang University Graduate School of Media, 2016

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Submitted in Partial Fulfillment of the Requirements

For the Degree of Doctor of Philosophy in

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Accepted by:

Brooke W. McKeever, Major Professor

Kevin Hull, Committee Member

Holly K. Overton, Committee Member

Rachel E. Davis, Committee Member

Cheryl L. Addy, Vice Provost and Dean of the Graduate School

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## DEDICATION

To my mom, Kim Hye-yeon, who is the strongest and wisest woman I know. You are my motivation.

## ACKNOWLEDGMENTS

“Breathe and reboot.” Innumerable times, I hesitated, stopped, regretted, and resented.

While I appreciate my blessed life, countless times, I had to stop and convince and encourage myself. I could not have made it this far without support from my people.

Words cannot express my appreciation for my advisor, Dr. Brooke McKeever, for her patience, support, and advice. I am lucky to have her in my life. She is a wonderful mentor, researcher, teacher, and individual. I would also like to thank Dr. Kevin Hull, who was always in his office, welcoming me; Dr. Holly Overton, for her advice, encouragement, and support; and Dr. Rachel Davis, for her support and guidance along the way. A big “thank you” to my girls, Dr. Kelli and Noura, who were always there for me to cry, drink (mostly me), and laughed with. They made this entire journey beautiful. In addition, my gratitude to my fellow Koreans, Joon, Yu-Jin, and Won-ki. Dr. Sei-Hill Kim and Dr. Mo Jang, who helped and guided me patiently along the way. My eternal friends and supporters, Paizer and Sung-ae. Moreover, I want to thank my family, especially my mom and sister Inju, and my best friend, Elise Choi, who saved me from isolation, watched over me 24/7, and walked and ran with me. Finally, special thanks to Dr. Jae Lee, who has always been there for me, patiently playing multiple roles in my life for the past decade.

## ABSTRACT

Gun violence has been a major threat to the United States in recent decades. Through the concept of media advocacy from health communication and mass communication literature, this dissertation used an experiment with 331 respondents to test the strategic value of public health framing and certain types of mobilizing information on social media as part of the media advocacy process, including how those elements may lead to attitudinal and behavioral responses related to gun-related policies. Political orientation and gun ownership were examined as potential moderating factors that affect individuals' perceptions of public health framing. Findings provide public health framing is an effective message strategy to influence individuals' attitudinal changes on gun-related policies. In addition, this study found that participants were more likely to engage with online activism when exposed to call-to-action hashtags. Call-to-action hashtags provide individuals specific directions on how they can be involved with the issue, much like tactical mobilizing information. Practical implications are discussed for gun safety advocacy organizations, communicators, and other health organizations to improve gun safety campaign strategies and tactics in the U.S. by understanding audiences better, shaping strategic messages, and conducting effective campaigns.

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# CHAPTER 1

## INTRODUCTION

Gun violence has been a serious threat to the United States (US) in the past several decades. However, constitutional protections of gun rights and high rates of gun ownership have been priorities in the U.S. public policy agenda rather than gun control regulation. In the last two decades, a series of tragic mass shootings, including Virginia Tech in 2007; Tucson, Arizona in 2011; Aurora, Colorado and Sandy Hook Elementary School in Newtown, Connecticut; a nightclub in Orlando, Florida in 2016; Las Vegas in 2017, and a high school in Parkland, Texas in 2018, have sparked national debate on gun control legislation immediately following these tragic incidents.

Mass shootings account for less than 1% of firearm deaths in the U.S. (Knoll & Annas, 2016). However, owing to the scale of death and tragedy, these shootings have often received prominent media coverage. For example, a mass shooting at Sandy Hook Elementary School in Newtown was ranked as the top news topic in 2012 by the Associated Press, higher than the presidential election (CBS, 2012). Citing the deaths of school children in the Newtown shooting, President Barak Obama called for further strengthening gun regulations to fight against gun violence (Bradner & Krieg, 2016). In addition, he reminded Americans of “an endless series of deadly shootings across the country, almost daily reports of victims, many of them children, in small towns and big cities all across America” (Newman & Hartman, 2017, p. 1527). However, a national sense of urgency to limit gun violence has failed to strengthen gun regulations thus far

(Azari, 2017). Surveys have shown that Americans perceive mass shootings as a societal issue that may change individuals' perceptions of gun-related policies (Liu & Wiebe, 2019). Although the public support for strict gun control regulations increases after tragic mass shootings, such spikes are shown as inconsistent post-crisis effects (Newman & Hartman, 2017). Gun purchase rates also often increase after mass shootings. Studies have shown sharp increases in gun sales after the 2012 Sandy Hook Elementary School shooting and the 2015 San Bernardino shooting (Levine & McKnight, 2017; Studdert, Zhang, Rodden, Hyndman & Wintermute, 2017). Liu and Wiebe (2019) explained the association between mass shootings and gun purchases in terms of two aspects. First, people may buy guns for self-protection caused by increased anxiety from mass shootings. Second, Americans are concerned that potential gun control regulations after mass shootings may restrict their future gun purchase. Certainly, increases in gun purchase and possession has increased firearm deaths (Levine & McKnight, 2017). Firearm deaths include any type of death caused by guns, including accidental deaths, suicide, and homicide (Anglemyer, Horvath & Rutherford, 2014). Ironically, evidence has shown that a series of tragic incidents has failed to compel the enactment of gun control regulations and decrease the volume of individuals' gun purchasing and possession.

Individuals' opinion on gun possession and gun rights are strongly rooted in their values and political predisposition. Scholars have examined the factors that mitigate individuals' strong beliefs on gun rights, such as anxiety (Joslyn & Haider-Markel, 2018) and proximity to mass shootings (Newman & Hartman, 2017), and assumed that those factors may influence individuals' gun control policy preferences. Joslyn and Haider-

Markel (2018) found that although mass shootings encouraged individuals to support gun regulation policies, their support eventually diminishes when their values are inconsistent with the policies. In terms of proximity to mass shootings, although people residing near mass shooting incidents tend to support gun control, this finding is based on the assumption that increased mass shootings motivate people to further support gun control (Newman & Hartman, 2017). Another study also found that individuals' preexisting beliefs become reinforced after mass shooting incidents (Jang, 2019). Research has consistently indicated the important role of individuals' preexisting values in relation to gun control attitudes. Given that gun violence incidents have been increasing in the U.S. in recent decades, considerable challenges exist regarding the enactment of gun-related policies.

McGinty, Wolfson, Sell, and Webster (2016) called for communication strategies to increase a gun owner group's willingness to vocalize their support for gun-related policies. In the U.S., gun possession and use are prevalent and considered constitutional rights. Given that gun possession is an individual right, gun safety advocacy campaigns that specify gun safety guidelines might be effective to target populations that value gun rights. Indeed, public health experts, gun control advocates, physicians, and some members of the media have advised the adoption of a public health approach to address gun violence. A public health approach focuses on defining the problem, identifying risks, developing prevention, and implementing effective programs ("Public Health Approach," n.d., para. 5). One of the most successful examples of adopting the public health approach can be seen in the reduction of motor vehicle deaths. The factors that cause injuries and death such as tired and drunk drivers, unyielding signs, lights,

windshield glass, and non-use of seat belts were identified as risk factors. Campaigns focused on multifaceted solutions such as driver education, safer roads, safety glass, seat belts, air bags, and enforcement of traffic laws, which were consequently implemented (Hemenway & Miller, 2013). Furthermore, rather than attributing blame to drivers, the public health approach emphasizes the system and upstream prevention. Hemenway and Miller (2013) indicated that a public health approach to prevent gun violence is comparable to the notion that Americans have as many guns as they have motor vehicles, which consequently produce various types of public health problems that are similar to problems caused by motor vehicles. Therefore, to solve these problems, diverse policies that are comparable to the efforts implemented to decrease motor vehicle deaths should be implemented.

Although much of the policy debate on gun violence has been divided based on values (gun rights vs. gun control, conservative vs. liberal) and political predisposition (democratic vs. republican), the public health approach to gun violence prevention is based on a pragmatic rather than dogmatic approach. Thus, instead of taking guns from Americans, this approach encourages policymakers to create a safe environment where individuals can learn to use guns safely. Jang (2019) pointed out ineffective and unsuccessful gun safety advocacy campaigns, which focus on publicizing shootings to promote gun control regulations and increase public support.

This paper aims to explore the message effectiveness of public health framing related to gun violence on individuals' attitudes toward gun-related policy. This study employs the concept of media advocacy (Wallack, Dorfman, Jernigan & Themba, 1993) to explore the communication strategies of a gun safety advocacy organization in

influencing individuals' attitudes and mobilizing them on the issue. Anchored by the concept of media advocacy and related literature, this study investigates how public health framing influences individuals' attitudes on gun-related policy. Moreover, this study determines the message strategies of media advocacy that affect individuals' willingness to act on mobilizing information and participate in advocacy activities related to gun control. Mobilizing information, which provides people with specific tactics to take an action related to an issue, is also a focus of this study. By studying public health framing and other specific organizational communication strategies, such as including mobilizing information, this paper seeks to examine the strength of public health framing and other strategies to mitigate individuals' preexisting values and political orientation.

More specifically, this study seeks to answer the following questions: 1) What is the relationship between public health framing and individuals' attitudes toward gun-related policies? 2) Which has more of an effect on individuals' attitudes toward gun-related policies: single public health framing or competitive public health framing? 3) Does individuals' political orientation and gun ownership moderate the relationship between public health framing and attitude toward gun-related policies? 4) How can gun safety advocates communicate effectively to mobilize people to engage in their advocacy work?

Although several studies have explored media framing of mass shootings and its effects on audiences in traditional media contexts, existing research rarely addresses the influence of certain message frames or tactics used on social media on individuals' attitudinal response. Social media have become important information sources regarding gun violence incidents, political debate, and gun policies, and have played critical roles in

cultivating individuals' attitudinal responses toward public policies (Merry, 2016; Moody–Ramirez & Cole, 2018). In particular, Twitter is a platform where users discuss sociopolitical topics (Park, 2013). Research has shown that Twitter serves as a foundation for social movements by mobilizing people and shaping discussion around an issue (Poell, 2014; Segerberg & Bennett, 2011). However, (2019) noted that research on social media's affective role on advocacy movements and effective engagement of additional individuals is scant. In addition, existing research has failed to reveal the actual environment where Americans acquire, process, and perceive information related to gun policy debates. Although framing research has shown single frame effects on the public in traditional media contexts (Nelson, Clawson & Oxley, 1997), Americans are actually exposed to multiple competing frames related to gun violence. Considering the actual environments where individuals acquire information on gun policy debates and issues salient to gun violence through various media channels, testing single framing effects doesn't reflect the actual media environment that influences Americans.

With all of this information as a backdrop, this study has three objectives. First, this study seeks to explore competitive framing from a strategic communication perspective by testing the effectiveness of messages that convey multiple facets of an issue in influencing individuals' attitudes. In particular, although previous studies on competitive framing have examined framing effects on audiences, this paper aims to examine the strength of public health framing and explore effective message strategies based on the concept of media advocacy. Second, this paper seeks to further understand the concept of media advocacy and consequently apply this concept to social media to identify and build tactical similarities and differences between the concepts of media



advocacy and social media advocacy. In addition to building the theoretical concept of media advocacy, this study tests the pragmatic approach of media advocacy and the effect of individuals' preexisting values on public health framing to explore whether this pragmatic approach can influence individuals' attitudes. Third, drawing from the theoretical frameworks of media advocacy and framing, this paper aims to explore Americans' psychosocial responses toward gun-related policy, which may induce individuals' behavioral reactions toward advocacy involvement. The findings from this study should add to existing literature in strategic communication by further exploring effective message strategies for advocacy communication, particularly on social media. Before explaining the methods used in this study, the next chapter will outline the literature that helped inform this study's research questions and methodological design.

## CHAPTER 2

### LITERATURE REVIEW

#### **2.1 Gun Control Debates in the U.S.**

Frequent incidents of gun violence have been a major threat to the U.S. in recent decades. A string of mass shootings in the summer of 2019 in Odessa and El Paso, Texas, Dayton, Ohio, and Virginia Beach received prominent media coverage and prompted national debate on gun control policy. Christopher Combs, special agent in charge of the FBI field office in San Antonio, Texas, said: “We are looking at an active shooter every other week in this country” during a media conference after the mass shooting in Odessa, Texas on August 31, 2019 (Keneally, 2019, para 3).

Although mass shootings are what dominate media headlines, gun violence involves any type of injuries caused by guns (e.g., accidents, suicides, intimate-partner violence, mass shootings, gang killings, and assassinations). Approximately 85 Americans are killed every day, and nearly 40,000 Americans are shot and killed annually by guns (Cook, 2018; Hemenway & Miller, 2013). The U.S. has the highest gun violence rates compared with other developed countries (Hemenway, 2017). Polarized opinions on gun policies by gun rights and gun safety advocates have followed tragic mass shooting incidents. The strongest organization advocating gun rights, the National Rifle Association (NRA), argues that these mass shootings demonstrate the need for additional guns for qualified people and that individuals should not be restricted to possess a gun. The organization is

frequently quoted for its statement that “the only thing that stops that stops a bad guy with a gun is a good guy with a gun.” By contrast, groups such as the Brady Campaign and Moms Demand Action urge stricter gun regulation policies and highlight public support on the issue. The organizations have pointed out the gap between public opinion and the legislative action of elected officials on gun-related policies. Although political science scholars state that public opinion is typically an antecedent of public policy, this does not apply to gun control policies (Miller, 2019). Public support on gun control has fluctuated since the first Gallup Poll in 1938. The first Gallup Poll in 1938 showed that 79% of Americans support gun control. Support fluctuated over the years, with the rate declining to 68 percent in 1966 and increasing to 71 percent in 1972 (Erskine, 1972). In 2010, this rate dropped to 44%. The 2018 Gallup Poll (2018) reported that 61% of Americans support gun control, which dropped from 67% after the mass shooting at a high school in Parkland, Florida in February 2018. Although post-tragedy effects on public opinion toward gun control have been common, public sentiment on gun control has failed to compel gun control legislation (Wasike, 2017).

A gap exists in understanding gun violence in terms of cause and prevention. Thus, different policy designs have been proposed (Smith & Spiegler, 2017). With regard to gun control, easy access to firearms and mental illness are the two most popularly cited causes of gun violence (Smith & Spiegler, 2017). Following this notion, gun control advocates have proposed universal background checks (who is qualified to purchase and own a gun), assault weapons bans (what type of guns are allowed), and open carry bans (where guns are permitted to be carried). These advocates have argued that lenient gun control laws remarkably increase the prevalence of gun ownership and the rate of gun

deaths. By contrast, gun rights advocates justify gun ownership mainly based on self-defense. Surpassing other recreational purposes, self-defense has been the primary reason cited for gun ownership in the U.S. (Goo, 2013). In a content analysis, Merry (2016) found that the NRA's narrative strategy of issue expansion on Twitter aims to focus on people who defend themselves from robbers. Merry (2016) argued that this narrative strategy shares the sense of protecting the Second Amendment for the public. Gun rights advocates believe that gun possession is an absolute right based on the Second Amendment of the U.S. Constitution. Pertaining to gun control regulations, the NRA declares that "a small first step in changing a law leads to a chain of related events resulting in a significant effect" (Jones & Stone, 2015, p. 169). The pro-gun lobby spent 23 times more than gun-control lobbyists in 2011. More specifically, pro-gun advocates spent \$ 5.5 million, whereas gun-safety advocates spent \$240,000 (OpenSecrets.org, 2012). Despite endeavors to pass anti-gun legislation during the Obama Administration, effective and powerful pro-gun campaigns have been an impediment.

Owing to the efforts of pro-gun organizations, Alcorn (2017) noted that the policy loophole of gun violence is attributed to a lack of scientific evidence and knowledge. Although the Centers for Disease Control and Prevention (CDC) initiated research on gun violence injuries in the 1980s, Congress, influenced by deliberate efforts by the gun lobby, forbade the research funding in 1996 and the agency was prohibited from doing research on firearm injuries. Alcorn (2017) identified the trends in research publications indexed in the SciVerse SCOPUS database on guns, crimes, and violence between 1960 and 2014. Findings indicated that the annual number of publications increased between 1985 and 1999, but the number decreased by 64% between 1998 and

2012. Stark and Shah (2017) examined the association between decreased research funding and fewer publications on the mortality rate caused by gun violence. They found that research on gun violence has less funding and fewer publications compared with that of other injury-related deaths. Moreover, this finding was negatively associated with the mortality rate caused by gun violence. Unbiased research data help to systematically understand the causes of gun violence, such as behavioral, environmental, and policy determinants, and consequently help develop and enact prevention efforts (Rajan, Branas, Hargarten & Allegrante, 2018).

Scholars have examined how the media cover the issue of gun violence. For example, Muschert and Carr (2006) conducted a content analysis in terms of time frame, life span of each incident, and space frame to identify frame changes in the news media coverages of shootings in nine schools between 1997 and 2001. They found that news stories initially discussed the incidents as community-level problems in present tense, but eventually, the shootings were presented in terms of their societal-level impact in the present and future tenses (Muschert & Carr, 2006). Recently, some researchers examined news media coverage of gun violence and mental illness. McGinty, Webster, Jarlenski, and Barry (2014) analyzed news stories on mental illness and gun violence from 1997 to 2012. McGinty et al. (2014) found that 70% of news stories focused on mass shootings and violent shooters with mental illness. News stories discussed mentally-challenged shooters as a significant cause of gun violence, and gun access restrictions for mentally-challenged individuals are frequently mentioned solutions. The authors argued that this frame influences audiences' perception of the cause of and solution to gun violence, whereas other societal factors, including easy access to guns, are substantially associated

with the incidents in reality. Other researchers have examined gun control debates from the perspectives of gun rights and gun control. Benton et al. (2016) analyzed the debate on Twitter surrounding gun control legislation in the U.S. for a year after the mass shooting at Sandy Hook Elementary School. The authors found that while gun safety advocates became prominently vocal early in the debate of national legislation of gun control policies, gun rights advocates were more consistently vocal and active against gun control policies, such as universal background checks, an assault weapons ban, and political candidates who support gun rights.

Advocacy campaigns necessarily involve persuasion. In doing so, issue framing is a key strategy to influence public opinion (Nelson & Oxley, 1999). By emphasizing certain aspects of an issue, messages compel individuals to perceive information in a certain way. Scholars have examined how social movements such as the Arab Spring (Hamdy & Gomaa, 2012) and Black Lives Matter (Ince, Rojas, & Davis, 2017) frame the issues and push them on to the public agenda via social media, as well as the traditional media agenda. In short, issue frames shape social media discourse and influence campaign outcomes (Goh & Pang, 2016).

## **2.2 Framing**

Framing refers to the assumption that how an issue is described in news reports can influence the process of how audiences comprehend such issues (Entman, 1993). Framing is rooted in psychology and sociology (Cacciatore, Scheufele, & Iyengar, 2016). The psychological understanding of framing lies in experimental work. Kahneman and Tversky (1979) examined how different presentations of stories influence people's decision-making process and evaluations of various options. The sociological foundations

of framing are based on the assumption that individuals cannot fully understand the world and constantly struggle to interpret their life experiences to realize their environment (Goffman, 1974). Therefore, framing is a macrolevel (media frame) and a microlevel (audience frame) construct (Scheufele, 1999). On the macrolevel (media frame), framing is employed by journalists and other communicators to present information in a manner that resonates with existing schemes among audiences. On the microlevel (audience frame), framing describes how people use information and presentation features regarding issues to form impressions. Although scholars have examined framing for decades, several researchers have argued for the importance of continued theory building in framing research. Framing is related to agenda-setting in that both focus on how media shape audience perceptions.

Studies have examined news coverage using media frames as the independent variable and audience frame as the dependent variable. For example, Huang (1995) compared news frames, based on content analysis of how the network evening news and two local newspapers framed the Anita Hill–Clarence Thomas controversy, with audience frames, based on coding answers to open-ended questions. Huang (1995) found that there was an association between media frames and audience frames.

Given that frames refer to news coverage content or strategic message content (Matthes & Schemer, 2012), framing is a useful theory to examine strategic messages and audience response to messages (Hallahan, 1999). This approach focuses on the process of how the construction of messages and meanings influences key audiences. In particular, framing is connected to the psychological mechanisms that people employ to process information, make judgements, and draw inferences about their environment. Research

anchored in this theory encompasses various areas, including psychology, organizational decision making, economics, health communication, media studies, and political communication (Hallahan, 1999). In public relations, practitioners define reality for the organizations they work for by shaping audiences' perspectives (Hallahan, 1999). To shape effective messages, public relations practitioners 1) influence the media agenda and 2) frame the issue by including, excluding, and emphasizing certain aspects of the issue.

In framing research, several researchers have argued for the importance of continued theory building. Framing is related to agenda-setting in that both focus on how media shape audience perceptions. Scheufele and Tewksbury (2007) argued that theory building should be based on conceptual distinctions between framing and agenda setting. Some studies (Scheufele, 2000; Scheufele & Tewksbury, 2007) on agenda-setting and framing have defined conceptual differences among various media effects theories (agenda-setting, priming, and framing). More recently, Cacciatore, Scheufele, and Iyengar (2016) argued that framing research should employ more precise definitions of framing by focusing on "preference-based effects," which occur when messages are consistent with individuals' belief (p. 13). Furthermore, while framing research has focused on framing effects primarily related to mass media, social media (e.g., Facebook, Twitter) allow researchers to test message effectiveness by tailoring messages to reach target audiences (Cacciatore et al., 2016). Bennett and Iyengar (2008) indicated that fragmented online news allows individuals to find information that fits their pre-existing beliefs. In line with this notion, Cacciatore et al. (2016) argued that media effects related to online media might be a form of "preference-based effects."



Based on the idea of preference-based effects, this study attempts to test the message effectiveness of public health framing by 1) emphasizing certain aspects of gun safety messages such as “legal and safe gun use” and “public health safety” 2) the way the message is presented (single framing vs. competitive framing). Furthermore, this study tests how public health framing interacts with individuals’ pre-existing beliefs.

**2.2.1 Public Health Framing.** Recent advocacy efforts on gun violence have focused on defining gun violence as a public health threat. Following the previous success of public health approaches to address tobacco use, motor vehicle safety, drunk driving, and unintentional poisoning, considerable efforts have been exerted by physicians, public health scholars, and gun safety advocacy groups to raise awareness of the public health implications of gun violence over the past several years (Mozaffarian, Hemenway, & Ludwig, 2013). In 1995, the American College of Physicians raised concerns about the prevalence of gun violence in the U.S. and called for new approaches to address gun violence as a public health problem (DeFoster & Swalve, 2017). Despite the consistent objections by gun rights advocates in Congress to fund research on gun violence during the last two decades, gun safety advocates have increasingly called for CDC research on gun violence (DeFoster & Swalve, 2017). Given that medical and public health journals aim to address the most important public health problems threatening people in society, an editorial in *The Journal of the American Medical Association* defined gun violence as a serious public health problem that harms people, and other journals have also published articles on gun violence (Bauchner et al., 2017). Bauchner et al. (2017) noted that accurate and timely research on gun violence educates people about the risk factors and interventions that prevent injuries and deaths from guns.

The CDC lists the four main steps of a public health approach: 1) defining and monitoring the problem; 2) identifying risks and protective factors; 3) developing and testing prevention strategies; and 4) assuring widespread adoption of effective programs (“Public Health Approach,” n.d., para. 5). Based on the CDC’s approach to public health, researchers have described the public health approach as including five elements (Coleman & Thorson, 2002; Dorfman, Thorson, & Stevens, 2001; Gruhn & Hawkins, 2004; Hemenway & Miller, 2013; Mozaffarian, Hemenway, & Ludwig, 2013). First, this approach connects the issue to the larger societal and environmental context. The approach seeks to change the environment where the problem exists rather than target changes in individuals’ behaviors (only). Second, this approach focuses on upstream prevention. The public health approach sees the cause of problems as predictable and preventable, rather than inevitable. By examining relevant agents and environmental factors, the approach seeks to develop methods to prevent problems. Third, this approach involves multiple strategies and tactics. The public health approach examines all interventions, including taxation, funding, research, public awareness campaigns, sociocultural modifications, and comprehensive policies. Fourth, the public health approach is population-based. It strives to provide the maximum benefit for the largest number of people” (“Public Health Approach,” n.d., para. 1). Lastly, the public health approach seeks to develop a system wherein mistakes are easily corrected, and the mistakes do not lead to serious injury or death.

Although efforts to frame gun violence as a public health issue have increased recently, research that investigates the consequences of the public health approach of framing gun violence and an ongoing discussion on this topic are lacking. Recently,

DeFoster and Swalve (2018) analyzed newspaper coverage of three mass shootings to determine the extent to which it includes discussion of public health frames, sources included in the coverage, and public opinion changes in relation to media framing over time. DeFoster and Swalve (2018) found a small increase in the number of articles that present a public health frame over time, which indicates the disconnected perspective among physicians, public health advocates, gun safety advocacy organizations, and journalists in relation to defining the causes of gun violence. Over time, media coverage has attributed responsibility to a failure of the mental health system rather than a failure of gun policy, while public opinion also reflected this notion. Although the authors found a trend that frames gun violence in the broad context of gun policies, media framing of gun violence was likely to attribute such incidence to failures in the mental health care system and to mentally-challenged individuals rather than to gun control regulations. Thus, the authors called for additional research on the public health implications of gun violence (DePoster and Swalve, 2018).

Scholars have indicated that the way in which public health problems have been framed influences individuals' perceptions of the responsibility for the issues, and this perception substantially affects public policy (Coleman & Thorson, & Wilkins, 2011; Dodge, 2008; Hawkins & Linvill, 2010). For example, Coleman and Thorson (2002) examined whether the public health framing of newspaper coverage on crime and violence influences individuals' perceptions of the issue in terms of attribution of responsibility, cause, and solution. Highlighting that media portrayals of crime and violence rarely discuss causes, prevention strategies, or environmental factors, Coleman and Thorson (2002)'s study found that a public health approach influences individuals'

perceptions of responsibility by attributing responsibility to societal factors rather than focusing on individuals. The authors failed to find any framing effect regarding audience perceptions on causes and solutions. Although Coleman and Thorson (2002)'s study tested a public health model, the model that they used exhibited limitations by adopting Iyengar (1991)'s thematic framing. This type of framing indicates societal attributions of an issue, including additional contextual information, details, and statistical evidence related to an issue. Coleman and Thorson (2002)'s study is one of the few studies that have tested the public health model's influence on individuals' perceptions. In another study, Coleman, Thorson, and Wilkins (2011) examined whether a thematic frame for obesity, diabetes, immigrant health, and smoking problems influenced individuals' attitudes about public policy related to such issues. The authors found that a thematic frame influences individuals' positive attitudes on public policy changes. However, this study was similarly limited because it failed to develop comprehensive definitions of the public health model/framing by again simply adopting the definition of Iyengar (1991)'s thematic framing. Although a plethora of studies have examined framing effects in terms of thematic and episodic frames related to various public health issues (Hawkins & Linvill, 2010; Mastic, Choi, Barboza & Post, 2007; Myhre, Saphir, Flora, Howard & Gonzalez, 2002; Zhang, Jin & Tang, 2015), thematic framing alone does not constitute the public health model. Wallack and Lawrence (2005) suggested that public health framing focuses on articulating the language of a community to enhance population health. In particular, manipulations for public health framing in this study emphasize the role of social conditions, advance specific public policies and preventions, and, finally, mobilize individuals to engage with policy changes. Based on previous findings related to

public health framing effects on individuals' attitudes toward public health policy, this study proposes the following first hypothesis.

*H1: Individuals will show more positive attitudes toward a gun control policy after they are exposed to a public health frame about gun control than before they are exposed to it.*

**2.2.2. Value Framing.** Value framing involves presenting an issue through a broad and abstract principle (Wise & Brewer, 2010). Politicians and advocacy organizations highlight the issue in a manner that favors their own beliefs against the opposing position to influence media frames and shape audiences' opinions (Kinder & Sanders, 1996). Those who attempt to shape public opinion seek a frame that emphasizes certain policy goals (Nelson, 2004). The contrasting framing between individual freedom (market justice) and collective responsibility (social justice) has been a long debate in public health.

Dorfman, Wallack, and Woodruff (2005) studied media advocacy strategies for public health advocates and suggested the essential components of public health messages. First, public health advocates must address social justice values to illustrate their desired policy changes. Second, rather than delivering every detail about the issue, public health advocates should focus on one aspect of the issue by emphasizing the value and policy objective. Lakoff (2004) specifies the three levels of message framing in public health issues. Level 1 addresses the core values, such as fairness, responsibility, and equity. Level 2 touches the general issue, such as housing, schools, or health. Level 3 tackles the specific details of the issues. Lakoff (1996) argued that people are likely to support an issue when they can connect themselves with the Level 1 values. Given that

advocacy messages (especially those on social media) have limited space, emphasizing Level 1 is more effective than addressing all the details of the issues. Dorfman et al., (2005) also argued that value-driven message framing is an important strategy in media advocacy.

However, numerous studies have shown weak or conditional value framing effects related to gun violence owing to the robust role of individuals' preexisting values, partisanship, and political predisposition (Fleming, Rutledge, Dixon & Peralta, 2016; Haider-Markel & Joslyn, 2001; Jashinsky, Magnusson, Hanson & Barnes, 2017; Lindaman & Haider-Markel, 2000). Scholars have examined whether frames of gun violence influence opinions about the issue. For example, Haider-Markel and Joslyn (2001) investigated framing effects of mass shootings on individuals' opinions about gun policy and attributions of blame. They found that frames influenced individuals' opinions on gun policy, and the influence was conditioned by political predispositions and level of political knowledge. Similarly, Lindaman and Haider-Markel (2000) examined whether issue frames of mass shootings influence individuals' opinions and attributions of responsibility for mass shootings. Similar to Haider-Markel and Joslyn (2001), they found that frame effects were conditioned for individuals whose political stance is consistent with the frame and who exhibit low levels of political knowledge.

Literature on framing research has shown that framing influences individuals' judgements, and these judgements mediate the relationship between values framing and individuals' opinions (Nelson, Oxley & Clawson, 1997). Previous studies have found that framing effects occur with various individual-level mediators (e.g., emotions; Lecheler, Bos & Vliegenthart, 2015) and moderators (knowledge; Druckman & Nelson, 2003).

Given that public opinion on gun control has fluctuated and is related to the debate between individuals' constitutional rights and the preservation of life based on individuals' robust preexisting values, value framing effects have been conditioned by individuals' preexisting values in influencing attitudes toward gun control policy.

Instead of emphasizing certain values, this study suggests that a pragmatic approach using public health framing may influence individuals' attitudes toward gun-related policies. Although previous studies have indicated that framing influences individuals' judgments on the importance of values, which consequently influence individuals' opinion on the issues (Nelson, Clawson & Oxley, 1997; Nelson & Oxley, 1999), a vague assumption of whether these individuals' preexisting value moderates the effects of public health framing is present. Scant research has investigated the interaction effect between public health framing's pragmatic approach and individuals' political orientation. Given that a public health approach focuses more on safe use of guns, rather than value framing based on the debate between gun rights and gun control, this study seeks to answer the following question: "Is public health framing sufficiently persuasive to influence individuals' opinions on gun-related policy regardless of political orientation?" Accordingly, the following research question is advanced to assess the moderating effect of individuals' political orientation.

*R1: Does political orientation moderate the relationship between public health framing and attitudes toward gun-related policy?*

While personal traits or preferences such as race or political orientation are considered as group identities in general (Oliver, 2003), Seate, Cohen, Fujioka, and Hoffner (2012) argued that gun ownership also constitutes group identity. Belk (1988)

indicated that ownership and control over the object are an important part of self-esteem. Individuals define themselves based on groups they belong to, and individuals' self-esteem comes partially from these group memberships (Seate et al., 2012; Tajfel & Turner, 1979). Furthermore, gun ownership is related to individuals' political orientation, which relates to the right to possess arms; gun ownership shapes group identities, and it helps individuals differentiate their group from other groups (Seate et al., 2012).

According to self-categorization theory, individuals actively avoid behaving in a way endorsed by outgroups' norms to maintain their ingroup identity (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). Self-categorization theory explains that individuals' strong conformity with their in-groups influences their choices and judgements (Pryor, Perfors, & Howe, 2019). Pennekamp, Doosje, Zebel, and Alarcon-Henriquez (2009) found that messages from outgroup sources are perceived and agreed less positively by individuals than ingroup sources. Fujioka (2005) also found that messages which threaten group identities lead to negative impressions. More specifically related to the current study, because gun control messages are related to discussions that limit individuals' rights to possess arms, Seate et al. (2012) argued that gun control messages would be perceived negatively by gun owners. In their experiment on third-person effects, Seate et al. (2012) found that gun owners are more likely to be concerned that mass shooting news coverage affects non-gun owners' attitudes on gun control policy. However, because the public health approach argues for creating a safer environment for gun use, rather than necessarily restricting gun rights, the following research question is posed to assess whether gun ownership influences the relationship between public health framing and individuals' attitudes toward gun-related policy.



*R2: Does gun ownership moderate the relationship between public health framing and attitudes toward gun-related policy?*

**2.2.3 Issue Framing.** Issue framing refers to how certain issues are perceived by the public and political elites (Gamson, 1992). This concept has been largely discussed in political communication. Given the complex nature of political issues, alternative interpretations of such issues are provided by various actors, such as political candidates, elected officials, administrative agency officials, and advocacy groups. Political elites pursue issue framing strategies to draw favorable public opinion on policy positions or to win elections (Jacoby, 2000). Issue frames present problems, causal attributions, evaluations, and policy directions and subsequently influence the public's attitudinal outcomes (de Vreese, 2010; Entman, 1993). The process of how a problem is defined influences the type of solutions that are considered and selected by the public (Merry, 2016).

Matthes and Schemer (2012) argued that framing effects potentially lead to persuasion effects. Advocacy groups use issue framing to highlight certain issue attributes and consequently influence policy formation and public opinion on issues (Entman, 1993; Haider-Markel & Joslyn, 2001). In addition to influencing policy preferences, issue framing also influences individuals' willingness to participate in political activities (Eveland & Scheufele, 2000). When issue framing is related with individuals' core values and actual behaviors, it may increase public engagement with the issue (McGinty et al., 2016; Nisbet, 2009).

Gun violence issues pose unique aspects compared with other political concerns. With regard to gun violence issue, politicians are likely to lead public opinion rather than

to follow and respond to public opinion on the issue (Lindaman & Haider–Markel, 2000). Moreover, gun violence issues exhibit considerable effects on elections, which have been magnified by a series of mass shootings (Haider–Markel & Joslyn, 2001). Thus, issue framing on gun violence matters remarkably for politicians, advocacy groups, and the general public in the U.S.

Although issue framing has been examined mainly in traditional media contexts, recent studies have pointed to issue framing effects on social media. For example, Guggenheim, Jang, Bae, and Neuman (2015) examined the news framing of mass shootings in traditional online news media and Twitter. In terms of presenting causes and responsibility for the incidents, multiple frames compete to receive attention across time. In terms of setting the agenda for the issue and framing it, traditional media and Twitter responded mutually. While traditional media influence discussion related to the issue, public responses to the issue on social media also influence the media agenda and frame the issue in traditional media.

**2.2.4 Competitive Framing.** Advocacy groups compete against counter arguments for public acceptance. In the public policy arena, policy advocates frequently engage in framing contests (Entman, 2003). Competitive frames have been discussed mainly in the field of political communication owing to competitive discussions in politics between parties or ideologies (Chong & Druckman, 2007a). Using competitive terms against the other frame, politicians and advocacy groups assume that their frames may be adopted by individuals, thereby potentially influencing the public’s evaluation of the issue. Researchers have explored how elites and the mass media frame policy issues by emphasizing certain aspects. Consequently, the frame influences public opinion.

Schattschneider (1960, p. 138) stated that “democracy is a competitive political system in which competing leaders and organizations define the alternatives of public policy in such a way that the public can participate in the decision-making process.” Various social actors compete to influence public opinion, and multiple frames are presented to the public in the real world. However, much of the literature in framing effects largely ignore the actual communication environment where individuals are exposed to multiple facets of an issue. Chong and Druckman (2007b) noted that research that examines competitive framing in framing effects is scarce. In addition, Sniderman and Theriault (2004) indicated that existing studies have paid attention to situations wherein individuals are restricted to face only a single frame of an issue.

Issue debates on gun violence have remained fairly consistent over recent decades. Previous research has presented different frames of the issue both in traditional and social media and examined public attention on each frame (shooter/victim event frame, gun control/gun rights frame, violent video games frame, mental illness frame) over time (Guggenheim et al., 2015). In general, Americans are familiar with gun violence issues and with several or all of the arguments from the opposing perspectives of gun rights and gun control (Jones & Stone, 2015). McGinty, Wolfson, Sell, and Webster (2016) examined Americans’ exposure to competitive framing related to the universal background check laws. Content analysis of national and regional news stories was conducted a year after the Newtown, CT mass shooting. The authors highlighted that news messages supporting background check policies were based on facts and rational arguments, whereas opposing messages were composed to activate the core values of gun owners by emphasizing gun rights. The authors argued that reframing the messages

supporting background check policies to align with core values of gun owners might be an effective strategy for increasing support on background check policies.

Chong and Druckman (2007) indicated two mechanisms of competitive framing effects. First, the loudest, dominant, or most frequently presented frame will exert strong framing effects. Second, frames with strong arguments will exhibit stronger effects than those with weak arguments. Several studies have shown that individual exposure to equally strong frames from each side mitigates framing effects (e.g., Hansen, 2007; Sniderman & Theriault, 2004). Moreover, Wise and Brewer (2010) found that although presenting news frames about the New York City trans-fat ban influenced public opinion, displaying competitive framing undermined these framing effects. Wise and Brewer (2010) indicated that competitive framing takes two forms. The first is when different issues use the same emphasis. For example, Wise and Brewer (2010) highlighted that pro- and anti- trans-fat advocates likewise argued for the protection of health to support each side. The second is when two frames of one issue use different emphases. For instance, frames about the Ku Klux Klan rally emphasized it either as a free-speech issue or a public safety issue (Chong & Druckman, 2017a).

The present study tests the latter type of competitive framing, which uses different emphases to present two frames of one issue. However, this study differs from previous competitive framing studies in two ways. First, this study tests the counter-arguing point of a public health frame for gun violence. Although previous studies on competitive framing present multiple facets of an issue from arguments on both sides, the present study examines two opposing stances against one aspect of gun violence to test the effectiveness of public health framing in the setting of competitive framing. Second,

although previous studies have examined competitive framing in the context of traditional media (e.g., newspapers and online news articles), the present study tests social media messages in the form of tweets. Considering the powerful role of gun rights and gun safety advocacy groups in terms of setting the agenda and framing the issue, and the role of social media as a venue for public debates on gun-related policies, it is surprising that scant research has examined the influence of competitive framing in a social media setting. Therefore, the present study particularly examines how counter-arguing retweeted messages with the public health frame against original tweets with the gun rights side influences individual attitudes toward gun-related policies. The retweet function enables users to post tweets from other users with their comments and share these retweets with others (Lee & Sundar, 2013). Although Twitter users and organizations have widely used the retweet function to disseminate messages, the effects of the retweet function in the competitive framing context are yet to be determined.

Chong and Druckman (2007a) observed that the strength and volume of competing messages influence public opinion and political engagement. Therefore, public health framing using Twitter's retweet with comments function in the context of competitive framing is a good test setting for understanding the effectiveness of public health framing in a real social media environment. Furthermore, with specific regard to the issue of gun violence and considering that audiences are easily exposed to competitive messages, testing a single framing effect may not reflect the actual environment where Americans receive information about this issue. Therefore, this study examines the process of how competitive frames of gun violence issues influence

individuals' attitudes toward gun control policies in a social media setting. More specifically, this study seeks to answer the following research question.

*R3: Do individuals exposed to competitive framing of gun violence using a public health frame express more positive attitudes toward gun-related policies compared with those exposed to only a single public health frame?*

People use various resources such as media discourse, popular wisdom, and prior knowledge when they evaluate information (Gamson, 1992). Individuals vary in the manner of allocating attention by using preexisting knowledge and values to interpret incoming information (Nisbet et al., 2013; Zha, Goidel, & Sylvester, 2015). In particular, preexisting knowledge is largely utilized when individuals are indecisive about situations (Zha, Goidel, & Sylvester, 2015). Sniderman and Theriault (2004) argue that individuals choose the side of the issue that is consistent with their political values when opposing frames are presented. Furthermore, Chong and Druckman (2007) found that individuals' values influence their policy preferences following message framing. In their experiment, the authors found that counter-framing effects are dependent on the extent to which individuals have strong or weak values. Thus, individuals' strong values mitigate message framing effects. Debates over gun violence have been salient and divisive among Americans. Haider–Markel and Joslyn (2001) indicated that individuals' opinions on gun control are based on their strong beliefs and values. For example, the Democrats' support of gun control is based on the principle of public safety. Given that Americans are familiar with the arguments regarding this issue, message framing may remind individuals of the arguments, which may interact with pre-existing values. However, as mentioned, little research on the interaction effect between public health framing and

individuals' political orientation has been conducted. The existing literature does not provide a clear prediction about how competitive framing might influence individuals' attitudes on gun-related policy. This unclear causal link is presented in terms of assuming a moderating effect of individuals' political orientation to attitudes and given the inconsistent findings on competitive framings, which are dependent on the strength of arguments. Therefore, a fourth research question assesses the moderating effect of individuals' political orientation between competitive public health framing and individuals' attitudes toward gun-related policy.

*RQ 4: Does political orientation moderate the relationship between competitive public health framing and attitudes toward gun-related policies?*

To test the message effectiveness of competitive framing, this study also asks the following question to explore the interaction effect between competitive framing and individuals' gun ownership on attitudes toward gun-related policies.

*RQ 5: Does gun ownership moderate the relationship between competitive public health framing and attitudes toward gun-related policies?*

### **2.3 Media Advocacy**

Advocacy is defined as the “catch-all word for the set of skills used to create a shift in public opinion and mobilize the necessary resources and forces to support an issue, policy, or constituency” (Wallack et al., 1993: p. 27). As advocacy efforts ultimately aim to influence public policy (Boris & Mosher-Williams, 1998), advocacy work also includes ensuring that institutions become increasingly responsive to human needs by increasing the power of people and groups (Wallack et al., 1993). Jenkins (2006) noted that advocacy seeks to “correct imbalanced political representation by

ensuring that a broader set of interests are voiced” (p. 308). Thus, advocacy efforts include multiple activities, such as calls for boycotts, demonstration, talks with governments, and petition letters (McCarthy & Castelli, 2001; Neumayr, Schneider, & Meyer, 2015).

Public health campaigns have been effective in organizing and promoting regulatory and legislative agendas on various public health problems, such as alcohol, tobacco consumption, and drunk driving (Winett & Wallack, 1996). Given that advocates have successfully incorporated these issues in the media, public, and policy agendas, Wallack et al. (1993) indicated that a determinant of promoting real change is setting the agenda in the media, public, and policy arenas. Thus, the mass media can be a powerful vehicle for reaching out to the public and, ultimately, to policy makers (Wallack & Dorfman, 2001). Public health advocates use the media to influence topic selection and shape the discussion of those topics (Wallack et al., 1993).

Media advocacy refers to “the strategic use of news media by those seeking to advance a social or public policy initiative” (Holder & Treno, 1997, p. 190). As an approach for public information campaigns, media advocacy uses news outlets to draw attention to specific issues in public health (Holder & Treno, 1997). Media advocacy consists of three steps: 1) agenda-setting, 2) framing, and 3) suggesting a solution or policy (BMSG, 1997; Gibson, 2010; McKeever, 2013). More specifically, the media increase attention to certain issues and help set the agenda. A full agenda-setting process involves setting the agenda for the media, the public, and for policy-makers. To set the agenda, public health advocates promote the salience of an issue by increasing the amount of media coverage (Wallack & Dorfman, 1993). Media frame the issue by



emphasizing certain aspects (Entman, 1993). Through agenda setting and framing, media advocacy activates media coverage to stimulate public action (Glanz, 2002). When the media discuss problems and solutions, they influence the public's perception of the problems. Moreover, addressing solutions to said problems enables the audience to make a connection between social problems and individual engagement (Kensicki, 2004).

In media advocacy efforts, public health advocates seek to change the social, political, and economic factors that influence health rather than focus on changing individual health behaviors (McKeever, 2012). Thus, the concept of media advocacy is in line with the discussion of public health framing. First, instead of changing individual behavior regarding health, media advocacy seeks to change the environment where individuals dwell (Gibson, 2010). By focusing on the determinants of health, media advocacy addresses policy changes. Because public health campaigns often attempt to affect individuals' health behaviors in mass populations, media have been used as a tool to reach large audiences. Many mass media campaigns, such as efforts surrounding smoking, alcohol use, and road safety, aim to influence individuals' decision-making processes and help individuals to adopt healthy social norms (Wakefield, Loken, & Hornik, 2010). Public health campaigns also sometimes aim to create "conditions in which people can be healthy" (Institute of Medicine, 1998, p. 140) in an attempt to help individuals change their behaviors. However, Wallack and Dorfman (2001) noted that few campaigns have focused on changing policies to ensure that healthy behavioral choices are available to individuals in various environments.

Part of media advocacy efforts focus on telling the story from the perspective of public health (Wallack et al., 1993). Recent advocacy efforts related to gun violence have

also pushed for the public health approach. For example, articles titled “Framing the danger of guns as a public health risk will change the debate over gun control” from *The Washington Post* (Franklin, 2014), “The Las Vegas Shooting: A Public Health Crisis” from *Fortune* (Leaf, 2017), and “How to Reduce Shootings” from *The New York Times* discussed the importance of the public health approach as a solution related to gun violence. Given that media advocacy focuses on using the media to frame an issue and influence policy change, recent media advocacy efforts related to gun violence may further explain and develop the concept of media advocacy. This study aims to aid in this quest.

Several scholars have examined the application of media advocacy. For example, McKeever (2013) conducted content analysis on news coverage of autism to understand how media advocacy efforts promoted the Combating Autism Act (CAA) to the public and may have induced policy changes. The author found that science frames decreased over time while policy frames increased, and news stories focused more on solutions than causes, which could help explain the eventual implementation of the CAA. However, McKeever (2013) found limited evidence of mobilizing information and thus called for further research on media advocacy efforts on the part of advocates and nonprofit organizations.

Elliott-Green, Hyseni, Lloyd-Williams, Bromley, and Capewell (2016) analyzed British news articles to assess the media advocacy efforts from public health advocacy messages related to sugar-sweetened beverages (SSBs) versus messages from the SSB industry. The authors found that the majority of articles indicated that SSBs are unhealthy, and messages regarding the detrimental effects of SSBs on health from

experts, public health advocates, and organizations were consistently presented. However, a limited number of news articles suggested policy changes to solve the problems associated with SSBs. The authors noted that consistent media advocacy efforts influence public support for regulations and consequent policy changes.

Although previous literature on media advocacy has focused on content analysis methods for studying the concept, McKeever (2013) called for further research on the framing effects of specific tactics involved in media advocacy through experimental research. However, this method is still lacking in media advocacy research. Given that traditional media has been studied, and advocacy organizations increasingly use social media in addition to traditional media to communicate about various issues, Rasmussen, Romeijn, and Toshkov (2018) and others have called for extending media advocacy research on social media.

**2.3.1 Social Media Advocacy.** Recent research on media advocacy has increasingly focused on advocacy efforts on social media. Advocacy organizations utilize social media to promote their cause, build rapport, and mobilize collective action (Guo & Saxton, 2018). Although media advocacy ultimately aims to change policies, advocates use media advocacy to bring public awareness and support, which consequently leads to policy changes (Gardner, Geierstanger, Brindis, & McConnel, 2010).

Advocacy organizations have long sought for means to capture public attention and prolong attention spans (Guo & Saxton, 2018). In addition to traditional media, social media have been considered an effective tool for raising awareness and mobilizing grassroots advocates to communicate on behalf of advocacy organizations. Previous research has examined how advocacy organizations use social media, including

determining its effectiveness (Cho, Schweickart, & Haase, 2014; Guo & Saxton, 2014; Nah & Saxton, 2013; Waters, Burnett, Lamm, & Lucas, 2009). For example, Lovejoy and Saxton (2012) analyzed how the 100 largest nonprofit organizations in the U.S. use Twitter updates for different purposes. Advocacy organizations primarily use the updates to disseminate information. The authors also found that developing communities and mobilizing action are other important functions of Twitter updates. However, scholars have found that advocacy organizations fail to fully use the interactive functions of social media. Although advocacy organizations have actively adopted and used social media, scholars have found that advocacy organizations use social media as a supplement for traditional media (Bortree & Seltzer, 2009; Waters & Jamal, 2011).

Early research in this area found limited use of social media by advocacy organizations. However, a number of recent studies have focused on how advocacy organizations use social media to communicate with and engage stakeholders and the public by focusing on social media as an interactive tool (Guo & Saxton, 2018; Ihm, 2019; Namisango & Kang, 2019; Smith, 2018; Xu & Saxton, 2019). In terms of building a relationship between organizations and individuals, Xu and Saxton (2019) examined how content-based tactics (i.e., organizational messages on twitter, such as number of tweets and inclusion of photos, videos, and hashtags) and connection-based tactics (i.e., directed tweets specifically targeting key individuals such as donors, grant makers, and grant seekers) generate social capital, which consequently strengthens stakeholder engagement. The authors found that connections with diverse stakeholders and complexity of message elements (e.g., hyperlink, hashtag, and visual content) are positively associated with quality relationships with various stakeholders.

Media advocacy is a concept that uses traditional media as an advocacy tool (Wallack, 2005). Although traditional media remain an important campaign channel for advocacy groups, few studies have examined the communication efforts of advocacy organizations on social media based on the concept of media advocacy, as shaped by Wallack and Dorfman (1996). Recent studies often use the term “social media advocacy” to investigate the effectiveness of social media campaigns of advocacy organizations (Saxton, Niyirora, Guo, & Waters, 2015), individual engagement with a political event on social media (Smith, Men, Al-Sinan, 2015), and individual engagement with a child advocacy campaign (Paek, Hove, Jung, & Cole, 2013). Although these studies broadly define advocacy as efforts to increase the level of individual engagement, the present study explores “social media advocacy” as a branch term from the concept of media advocacy by Wallack and Dorfman (1996), which primary aims for policy changes by amplifying public voices. Media advocacy ultimately aims to promote policy changes that transform the environment where individuals live in addition to raising awareness or educating the public. Therefore, this study focuses on testing public opinion shift following certain framed messages regarding gun-related policies.

Previous studies regarding media advocacy and social media advocacy have indicated that four differences exist between the concepts of media advocacy and social media advocacy. First, although media advocacy efforts mainly use news and paid advertising, social media advocacy efforts are exerted through the organizations’ owned media. To access the news media, advocates frame an issue to satisfy journalists’ interests. In general, journalists’ interests toward public health issues are high. However, advocates often face the challenge of framing a public health issue in a simple manner,

which often means emphasizing the individual or behavioral aspects of a story rather than the policy aspects (Wallack & Dorfman, 1996). Wallack and Dorfman (1996) indicated that the journalists' role of accurately selecting and covering the issue is another important factor in media advocacy. Conversely, advocates can control their message in terms of framing the issue, raising awareness, and providing information on social media (Tully, Dalrymple, & Young, 2018). Advocates' role in agenda-setting and message framing is a significant factor for advocacy efforts on social media. Second, as a part of media advocacy efforts, advocates aim to increase the volume of media coverage to set an issue on the media agenda. Consequently, increased media coverage leads to the issue also becoming part of the public agenda. Social media can be used as a tool to enhance or reverse the effects of this agenda setting. Advocates mobilize public opinion on social media, and increased discussion on social media influences the traditional media agenda. Scholars have discussed the reverse agenda-setting effects from social media to traditional media (Guggenheim et al., 2015; Jang, Park, & Lee, 2017). Although the overall agenda-setting relationship showed a reciprocal causation rather than a one-way agenda setting, certain aspects of the issue flowed from social media to traditional media (Guggenheim et al., 2015). Third, one of the limits of media advocacy is leaving out important voices from individuals or group members in the subaltern (Gibson, 2010). Gibson (2010) indicated that advocates (elites) use journalists to put pressure on policy makers (elites). Thus, the public plays a limited role in this policy influence and change process. By contrast, individuals who are part of the general public can be important actors as agenda and frame setters on social media. Gibson (2010) noted that social media reflect the voice of the public, which is absent in current/traditional media advocacy

efforts and research. That is, public opinion and opinions from individuals or groups in the subaltern are identified and exposed in social media advocacy, which can play an active role in setting the public and media agendas (McCombs, 2014). Fourth, mobilizing information and providing specific tactics for the public to take action and help create solutions are an important part of media advocacy (McKeever, 2013). Media often provide information to the audience that enables them to act (McKeever, 2013). On the one hand, traditional media disseminate information through media coverage, and the public receives the information. On the other hand, social media enable the public to actively share mobilizing information and further engage in advocacy work. In social media advocacy, individuals' participating role of disseminating information consequently enables a growing number of people to share information and become involved in the issue. In traditional media coverage, mobilizing information includes names and contact information of people or groups, time and venue of an activity, and specific actions to facilitate involvement (Lemert, 1984). Mobilizing information on social media is presented as hashtags, hyperlinks, and linked online news articles so that they can be shared by individuals, further amplifying the information and engagement in advocacy efforts.

**2.3.2 Mobilizing Information and Calls to Action.** Suggesting specific solutions is an important part of media advocacy (Gibson, 2010). Although advocates reach out to policy makers via direct lobbying, efforts to increase public awareness and support remain necessary (Gardner, Geierstanger, Brindis, & McConnel, 2010). Providing the public with solutions and options for alleviating concerns promotes public engagement with actions toward solutions. However, previous studies have found that the news media

are less likely to include solutions that the public can use (Hoffman, 2005; Kensicki 2004; Lemert, 1984). Such information mobilization is a fundamental factor to enable the public to act (Lemert, 1984). Snow and Benford (1988) identified three framing factors that advocates should include to mobilize individuals to act, namely: 1) diagnostic framing (a problem and attribute frame); 2) prognostic framing (solutions to the problem); and 3) and motivational framing (a call to action). To activate people on social media, advocates and advocacy groups should focus on motivational framing, which is similar to providing calls to action (Hestres, 2013).

A “call to action” in media coverage is defined as any information that the public can utilize to facilitate individual action (Kensicki, 2004: p. 59). Mobilizing information is similar to calls to action and has been categorized into three types: 1) identificational (names and contact information for people or groups); 2) locational (time and a place of an activity); and 3) tactical (instructions for certain behaviors) (Lemert, 1981, p. 56). Kensicki (2004) argued that “the public could presumably become engaged if clear relationships are formed in the media among individual action, problems in society, and nonprofit citizen organizations working to combat them” (p. 56).

**2.3.3 Hashtags.** Hashtags are simple keywords or phrases following a pound sign, such as #BlackLivesMatter and #MeToo. Hashtags enable the public to engage in a debate, accumulate messages for the movement, connect individuals to action communities, and add visibility for advocacy movements (Saxton et al., 2015). Xu and Saxton (2019) noted that rich communicative cues, such as hyperlinks, visuals, and hashtags, result in increased social media engagements. Kerns (2014) found that using a



hashtag increases retweets by 46%. Thus, hashtags enable users to share a common interest related to a particular topic (Tremayne & Minooie, 2013).

By examining the effectiveness of using hashtags in advocacy campaigns, Saxton et al. (2015) classified the following eight types of hashtags used by advocacy campaigns and organizations: 1) knowledge and public education, 2) events, 3) values and goals, 4) branding, 5) dialogue, 6) time and place, 7) call to action, and 8) business. The authors found that certain types of hashtags (i.e., public education, values and goals, branding, call to action, and dialogue) received the highest number of retweets, which shows that the type of hashtags used is critical for social media campaigns.

Mobilizing information aims to increase public support and consequently encourages individuals to participate in advocacy actions. Recently, Rho and Mazmanian (2019) examined how the presence of political hashtags in social media news influences people's perception about controversial issues. They found that presence of hashtags in news stories affects people's further engagement with the issues. In their experiment, people who were exposed to news with political hashtags were more likely to perceive the news as partisan and controversial, and this partisanship and controversy mediated the relationship between the news stories and individuals' further engagement with the issues. Based on Rho and Mazmanian (2019)'s finding, this study goes one step further to examine the type of hashtags that may encourage individuals to participate in advocacy actions.

By examining social media messages about public policy response to shooting incidents, Tremayne and Minooie (2013) emphasized that most hashtags are related to public policy, such as #GunControl, #GunLaws, and #GunRegistry. Although previous

studies have found that certain types of hashtags urge people to engage in issues, the classification of hashtags used in such studies pertains to certain issues and has been organization-specific. Therefore, this study draws annual hashtag data presented from Everytown for Gun Safety, Moms Demand Action, Brady Campaign, and Sandy Hook Promise, which are the four most active gun safety advocacy organizations on Twitter, using Crimson Hexagon. Details are discussed in the method section. Initial reading of frequently presented hashtags and the associated literature suggested different types of hashtags for consideration. To test hashtags in the public health approach context, the components of the public health approach were also considered. While a public health approach emphasizes stricter gun regulations within public health systems through policy changes, responsible gun use by individuals is another important factor (Kristof, 2017). Therefore, gun safety organizations actively promote both gun-related policies and individuals' responsible gun use. Tremayne and Minooie (2013) also indicated that gun safety organizations actively use policy-related hashtags. According to Saxton et al., (2015)'s classification of hashtags used by advocacy organizations comprising the National Health Council's 105 member organizations, they defined policy hashtags as containing certain public policy names while call-to-action hashtags ask people to do certain things. Saxton et al., (2015) classified policy hashtags as one of three types of public education hashtags; other types of public education hashtags included medical conditions (disease or medical condition, e.g., #diabetes, #psoriasis) and knowledge-based hashtags (health-related research, knowledge, or education, e.g., #AsthmaAwareness, ALSresearch). More specifically, the call-to-action hashtags include all hashtags such as mobilizing audiences, engaging audiences in certain actions, and

disseminating education messages. They also found that public policy and call-to-action hashtags were more likely to be shared by people.

Although a recent study (Rho & Mazmanian, 2019) found that presence of hashtags captures people's attention and motivates people to further engage with social movements (specifically, #MeToo and #BlackLives Matter), there has been little experimental research on whether different types of hashtags - or the specific content in the hashtag - lead to different levels of willingness to engage in advocacy. Given that previous studies have examined the effectiveness of using hashtags based on the number of retweets used by general advocacy organizations, this study explores whether different types of hashtags (call to action vs. policy), which are frequently used by gun safety organizations, motivate individuals to participate in information mobilization and online advocacy actions related to gun safety issues. Furthermore, while policy hashtags contain general policy/bill terms such as #backgroundcheckbill, #HR8, #redflaglaws, call-to-action hashtags are more specific and dialogic such as #besmart, #endfamilyfire, #safestorage. Ma, Sun, and Cong (2013) indicated that specific hashtags are more likely to lead people to remember and recognize the messages. Therefore, this study also attempts to test whether different type of hashtags make the message memorable and lead to different behavioral responses. To test whether participants react differently to different types of hashtags, this study asks the following research question.

*RQ 6: Do different types of hashtags induce different behavioral responses in terms of willingness to engage in online advocacy? If so, what types of hashtags lead to positive behavioral intentions?*

Considering that this study tests the message effectiveness of a public health approach targeting an American population, this study asks a question about how different political orientation influences the relationship between presence of hashtags and individuals' willingness to engage in online advocacy.

*RQ 7: Does political orientation influence the relationship between the presence of hashtags and willingness to engage in online advocacy?*

## CHAPTER 3

### METHOD

#### 3.1 Overview

This chapter describes the experiment instrument, data collection and data analysis procedures, and the sample. To test the proposed hypothesis and research questions, this study employed a 2 (single vs. competitive public health framing)  $\times$  2 (call-to-action vs. policy hashtags) between-subjects online experimental design. The experiment was conducted through Qualtrics using four Tweets by a fictitious gun-related advocacy organization. Because this study targets a general population in America, the researcher worked with Qualtrics to recruit demographically and politically representative participants living in the U.S. (Boas, Christenson, & Glick, 2018). Using Qualtrics software, researchers can create a survey questionnaire and distribute a survey link to participants. Qualtrics is considered a good source of data collection due to its data collection speed and high-quality data (Boas et al., 2018).

#### 3.2 Pretest

This study adopted an online experiment. To test the manipulation, randomization, wording, and survey flow, separate pretests were conducted. The first pretest was based on a convenience sample of 45 undergraduate students in a mass communications program at a public university in South Carolina. The pretest showed that there was no significant difference in framing (single vs. competitive) and hashtags (call-to-action vs. policy). In terms of single vs. competitive framing, some respondents

perceived the public health approach in the original manipulation as a gun rights message or a neutral message containing both gun safety and gun rights stances. Also, participants didn't seem to pay enough attention to hashtags when they read the tweets. The manipulation was not successful to distinguish the difference between single framing vs. competitive framing or call-to-action hashtag vs. policy hashtag.

After enhancing gun safety aspects of the public health framing manipulation, adding more hashtags, embedding hashtags in the tweet message, and modifying the wording of manipulation check questions and answers, the second pretest was conducted with another groups of students ( $N = 30$ ). The manipulation was successful compared to the first pretest. After the second pretest with a student sample, more hashtags were added, and some wording was changed to help participants easily understand the manipulation questions and answers.

To address the concern of using college students as a sample (Krishna, 2017), Amazon's Mechanical Turk (also known as Mturk) was used to collect a sample for conducting a pretest after two rounds of pretests with student samples. Mturk is a useful source to collect data for pretesting due to its reasonable cost and data collection speed (Christenson & Glick, 2013). The pretest sample included American residents ( $N = 30$ ) above 18 years of age. The third pretest showed that the manipulation was successful. Although the overall manipulation check was successful, some answers to the manipulation check questions related to single vs. competitive framing still raised concerns. Therefore, the wording of manipulation check questions and answers were modified again to emphasize the retweet message in competitive framing.

After three rounds of pretest with different groups of participants, the final pretest was conducted with a Qualtrics panel based on the similarity of demographics with the final sample of participants. The respondents represented the general population of people living in America (who were also registered with Qualtrics). Participants in the pretest sample were not included in the final sample. The manipulation check was found to be successful and the reliability scores of all variables were measured. After the final pretest with the Qualtrics panel, timing specifications were added to exclude participants who completed the survey in less than five minutes.

### **3.3 Participants and Procedures**

The respondents were U.S. residents registered with Qualtrics. G\*power was conducted to determine the sample size for this study. The power analysis indicated that 160 participants were needed to achieve the power of 0.80 (Yang & Ott, 2016). The final sample was recruited through Qualtrics from February 11 to February 13, 2020. The final data collection consisted of two stages. The soft launch was conducted with 50 participants in the first stage, and the second stage with 281 participants; 331 participants completed the study. Using Qualtrics, response completion time and survey completion time was measured. Participants whose completion time was under five minutes were removed from the final sample. Two attention check questions were also included within the survey. Participants who failed attention check questions were excluded from analysis. In an attempt to create a sample that was at least somewhat representative of the U.S. population, a quota method was employed for gender, age, and political orientation. The quotas matched with the U.S. census data (United States Census Bureau, 2018).

The experiment was described as a short study of the relationship between individuals' values and public opinions. The participants were provided with a consent form initially. After providing their consent, they were randomly assigned to one of four conditions (single framing and call-to-action hashtag, single framing and policy hashtag, competitive framing and call-to-action hashtag, competitive framing and policy hashtag; see Appendix). The participants' gun ownership and attitudes toward gun-related policy were measured prior to testing the framing effects. Then, they were asked to answer questions that measure their attitudes toward gun-related policy again and willingness to engage in online activism. Political orientation was measured with demographic information toward the end of the survey.

### **3.4 Manipulation**

Four mock-up tweets were constructed. As previously indicated, the study employed a fictitious gun safety advocacy organization. Public health framing was manipulated in two ways via single and competitive frames. Moreover, the hashtags were manipulated in two ways, call to action and policy. The stimulus is a tweet message from a gun safety advocacy organization that emphasizes the responsible and safe use of guns at the community level (single public health framing) or the responsible and safe use of guns at the community level arguing against a fictitious gun rights advocacy tweet message emphasizing gun rights and self-defense (competitive public health framing).

Among the five components of public health framing outlined in the literature review, the tweet content emphasizes environment, prevention, and population-based approach. More specifically, the message appeared as follows: "A public health approach to ending gun violence focuses on saving lives, preventing injuries, protecting



our kids (prevention). Let's create safer communities by reducing gun violence (environment and population-based approach).” The content was created based on gun safety and gun rights groups’ actual tweets.

Wasik (2014) indicated that while gun rights groups frame gun use as self-defense, Second Amendment, entertainment, and sport shooting, gun safety organizations point out the system loopholes in the use of assault weapons and background check systems with gun violence rates and statistics. More recently, gun safety organizations have become clear that the organizational goal is not to ban gun use in America (Segers, 2019). However, gun rights organizations still frame gun safety organizations’ messages as restricting gun owners’ gun use.

Crimson Hexagon provides access to a word cloud, the posted hashtags, and the occurrences of hashtags from Everytown for Gun Safety, Moms Demand Action, Brady Campaign, and Sandy Hook Promise for a one-year period spanning from October 16, 2018 to October 17, 2019. The hashtags #backgroundcheckbill, #endgunviolence, #protectourkids, #gunsense, #gunsafety, #besmart, #safestorage, #commonsenselegislation, #valeg, #nevada, #redflaglaws, #expectus, and #demdebate were frequently mentioned from the four gun safety advocacy organizations. Of the most frequently used hashtags, #backgroundcheckbill, #redflaglaws, #gunreformbill, #keepamericansafeact, and #commonsenselegislation were selected for use in this study because of the focus on policy, and #besmart, #endfamilyfire, #securestorage and, #breakthepattern, and #safestorage were selected for this study because of the broader focus on call-to-action. To make each tweet message consistent and emphasize certain key messages, some hashtags (e.g., #gunreformbill, #securestorage, #breakthepattern),

that were not among the most frequent but were used by the advocacy organizations, were also included in the messages. These hashtags are more focused on individuals, parents, or other family members safely storing or securing guns, while the former hashtags are specific to various policies being discussed at the time of this research.

### **3.5 Measures**

#### **3.5.1 Dependent Variables**

*Policy Attitudes toward Gun Regulation and Open Carry.* Policy attitudes were measured using four items adopted from a public poll and Jang (2019)’s study (Pew Research Center, 2017; Jang 2019) using a seven-point Likert-type scale (1 = not at all important 7 = extremely important). The participants were asked to indicate the extent to which they agree or disagree with gun regulations. Items (Cronbach’s  $\alpha = .78, .80$ ) include: “Preventing people with mental illness from purchasing guns is...;” “Making private gun sales and sales at gun shows subject to background checks is...;” “Placing a ban on assault-style weapons is...;” and “Creating a federal government database to track all gun sales is...”

Attitudes toward open carrying of handguns were measured using three items adopted from previous studies (Jang, 2019; Pew Research Center, 2017; Semet & Ansolabehere, 2011). All items used a seven-point Likert-type scale (1 = strongly oppose to 7 = strongly favor). Items (Cronbach’s  $\alpha = .82, .96$ ) asked participants to indicate whether they favor or oppose the following: “A law that allows the open carrying of a handgun in public without any license or permit;” “A law that allows the open carrying of a handgun on college campuses without any license or permit;” and “A law that allows the open carrying of a handgun in other public places without any license or permit.”

***Willingness to Engage in Online Advocacy.*** Willingness to engage in online advocacy was measured using four items adopted from Poorisat, Boster, and Salmon's (2019) measures of willingness to engage in online activism and two items adopted from Nekmat, Gower, Zhou, and Metzger's (2019) connective-collective activities (Cronbach's  $\alpha = .93$ ) using a seven-point Likert-type scale (1 = very unlikely to 7 = very likely). Nekmat et al., (2019) defined connective-collective activities as building and making information resources available through mobilization of individuals in social movements on social media. Connective-collective activities on social media include commenting, relaying information, uploading materials, and affiliating (following or liking) (Nekmat et al., 2019). Items include the following (Cronbach's  $\alpha = .93$ ): "Sign an online petition to tell the government to enact gun-related policy;" "Share online content to encourage others to participate in gun safety advocacy (e.g., tweet or retweet information, share a link, and click 'Like');" "Chat with your friends online about the need to engage in gun safety advocacy;" "Write your own tweet about the need to engage in gun safety advocacy;" "Provide hashtags to other information pertaining to the campaign or organization;" and "Upload materials related to the campaign or organization."

### **3.5.2 Moderating Variables**

***Political Orientation.*** To assess some of the individual differences that might affect participants' reactions to the content in this study, political orientation was measured using seven categories from "strong Republican" (as 1) to "strong Democrat" (as 7), and "independent" or "non-partisan" (as 4). The measure was adapted from Haider-Markel and Joslyn (2001)'s study.

***Gun Ownership.*** Gun ownership was measured in two aspects: family gun ownership and personal gun ownership. To assess family gun ownership, participants were asked “Does any member of your household own a handgun, rifle, shotgun, or any other kind of firearm?” Personal gun ownership was measure with “Do you personally own a handgun, rifle, shotgun, or any other kind of firearm?”. For both questions, yes responses were coded as a 1, no responses were coded as 2.

### **3.6 Manipulation Check Questions**

The first question assessed whether participants were able to identify the different framing presence in different experimental conditions. The single vs competitive framing manipulation was examined using one question: “The tweet that you read about was presenting which stance(s) on gun violence? Please include all the stances you read.” Respondents were asked to choose from the following options: 1) The tweet contained one tweet message. The tweet was focused on reducing gun violence (e.g., talked about making communities safer); 2) The tweet contained one tweet message. The tweet was focused on protecting gun rights (e.g., talked about how guns can help defend us); 3) The tweet contained two tweet messages (original tweet and retweet). The original tweet and retweet contained information about BOTH topics (reducing gun violence AND gun rights).

The second question assessed whether participants were able to identify the type of hashtag related to gun safety advocacy in different experimental conditions. The hashtag manipulation was examined using one question: “The tweet you just read included hashtags. The hashtags were related to...” Respondents were asked to choose

one of the following options: 1) Safer gun storage, 2) Specific gun-related policy/bill names, 3) None of the above.

### **3.7 Demographic Information of the Sample**

The respondents' demographic characteristics are shown in Table 3.1. Of the final sample, 50.8% (168) were male and 48.6% (161) were female. The majority of the sample was Caucasian (81.6%) with a mean age of 46.54 years ( $SD = 18.07$ ). More than two-thirds of the participants' household income ranged from \$25,000 to \$199,999. Regarding level of education, 29.9% of respondents indicated having some college education, followed by 23.3% of respondents indicating they had a four-year college degree, and 22.7% of respondents indicating they had a graduate degree. According to the quotas employed to collect data, 33.2% of the sample indicated Democratic political party affiliation, 32.3% indicated Republican political party affiliation, and 33.2% indicated being independent.

### **3.8 Data Analysis**

The survey was designed to examine the causal relationship between public health framing and individuals' attitudinal changes toward gun related policies, as well as behavioral intentions related to online advocacy involvement. Based on the hypothesis and research questions, statistically analysis such as t-test and two-way ANOVA were conducted. Data was collected using Qualtrics. Data cleaning, pre-test analysis, and data analysis were conducted using SPSS (version 26). For analyses, the two framings and hashtags were recoded into dichotomous variables. The single framing was coded as 0 and competitive framing as 1. Similarly, the call-to-action hashtag was coded as 0 and policy hashtag was coded as 1.

**Table 3.1 Demographic Characteristics of Respondents (N = 331)**

| Demographic Characteristics      | Frequency | Percentage (%) | Mean  | SD    |
|----------------------------------|-----------|----------------|-------|-------|
| Gender                           |           |                |       |       |
| Male                             | 168       | 50.8           |       |       |
| Female                           | 161       | 48.6           |       |       |
| Other                            | 2         | .6             |       |       |
| Age                              |           |                | 46.54 | 18.07 |
| Annual Household Income          |           |                |       |       |
| Under \$25,000                   | 75        | 22.7           |       |       |
| \$25,000 to \$49,999             | 97        | 29.3           |       |       |
| \$50,000 to \$74,999             | 47        | 14.2           |       |       |
| \$75,000 to \$99,999             | 29        | 8.8            |       |       |
| \$100,000 to \$199,999           | 57        | 17.2           |       |       |
| \$200,000 or more                | 26        | 7.9            |       |       |
| Highest Education                |           |                | 5.44  | 0.95  |
| Some high school                 | 10        | 3.0            |       |       |
| High school graduate or GED      | 70        | 21.1           |       |       |
| Some college                     | 99        | 29.9           |       |       |
| Four-year college graduate       | 77        | 23.3           |       |       |
| Graduate degree                  | 75        | 22.7           |       |       |
| Race/Ethnicity                   |           |                |       |       |
| Black/African American           | 42        | 12.7           |       |       |
| White or Caucasian               | 270       | 81.6           |       |       |
| Asian                            | 6         | 1.8            |       |       |
| Hispanic/Latino                  | 15        | 4.5            |       |       |
| American Indian or Alaska Native | 1         | .3             |       |       |
| Political Affiliation            |           |                |       |       |
| Democratic                       | 110       | 33.2           |       |       |
| Republic                         | 107       | 32.3           |       |       |
| Independent                      | 110       | 33.2           |       |       |
| No preference                    | 4         | 1.2            |       |       |

## CHAPTER 4

### RESULTS

#### 4.1 Manipulation Checks

**Framing.** The manipulation check was assessed using two questions in the survey. Participants were asked to identify the different frames they read in the different experimental conditions. The respondents were given three options: 1) The tweet contained one tweet message. The tweet was focused on reducing gun violence (e.g., talked about making communities safer) 2) The tweet contained one tweet message. The tweet was focused on protecting gun rights (e.g., talked about how guns can help defend us) 3) The tweet contained two tweet messages (original tweet and retweet). The original tweet and retweet contained information about BOTH topics (reducing gun violence AND gun rights). A crosstabs analysis indicated significant differences in how participants identified the type of message frames they viewed,  $\chi^2(3, N=331) = 331.00, p < .001$ .

**Hashtags.** To test the manipulation of the hashtags, participants were asked to identify the type of hashtags they read in the different experimental conditions. The respondents were asked to choose one of the following options: 1) Safer gun storage, 2) Specific gun-related policy/bill names, 3) None of the above. A crosstabs analysis showed significant differences in how the participants identified the types of hashtags,  $\chi^2(3, N=331) = 331.00, p < .001$ . Therefore, both manipulations were successful.

## 4.2 Hypothesis and Research Questions Results

The first hypothesis predicted: “Individuals will show more positive attitudes toward a gun control policy after they are exposed to a public health frame about gun control than before they are exposed to it.” To determine whether there is a statistically significant difference between before and after being exposed to the public health framing, a paired-sample t-test was conducted. The paired- sample t-test results revealed that there is a statistically significant difference between before and after being exposed to the public health framing in attitudes toward gun regulation policies (before:  $M = 5.74$ ,  $SD = 1.26$ , after:  $M = 5.96$ ,  $SD = 1.26$ ,  $t = -5.73$ ,  $p < .001$ ). However, attitudes toward open carry regulation policies (before:  $M = 2.42$ ,  $SD = 1.86$ , after:  $M = 2.34$ ,  $SD = 1.88$ ,  $t = 1.87$ ,  $p = .06$ ) did not show a statistically significant difference. Thus, H1 was partially supported.

The first research question (**RQ 1**) asked: “Does political orientation moderate the relationship between public health framing and attitudes toward gun-related policy?” To examine whether political orientation moderated the effects of public health framing on attitudes toward gun regulation and open carry regulation policies, a series of two-way ANOVAs were conducted. Results from the analysis indicated that there is no significant interaction on attitudes toward gun regulation policies, [ $F(6, 317) = .49$ ,  $p = .82$ ] nor was there significant interaction effects on attitudes toward open carry regulation policies,  $F(6, 317) = .26$ ,  $p = .96$ . While there was no interaction effect of public health framing and political orientation, political orientation was a significant predictor of attitudes toward gun regulation policies ( $p < .05$ ) and attitudes toward open carry regulation policies ( $p < .05$ ).



The second research question (**RQ 2**) asked: “Does gun ownership moderate the relationship between public health framing and attitudes toward gun-related policy?” To examine whether gun ownership moderated the effects of public health framing on attitudes toward gun regulations and open carry regulation policies, a two-way ANOVA was conducted. Gun ownership was assessed in two ways, family gun ownership and personal ownership. Results from the analysis regarding moderation effects of family gun ownership indicated that there is no significant interaction on attitudes toward gun regulations [ $F(1, 327) = 3.54, p = .06$ ] nor was there significant interaction effects on attitudes toward open carry regulation policies,  $F(1, 327) = .08, p = .77$ . However, personal gun ownership was a significant predictor of attitudes toward gun regulation ( $p < .05$ ) and open carry regulation policies ( $p < .001$ ).

Another two-way ANOVA was conducted to examine the interaction effect of public health framing and personal gun ownership on attitudes toward gun regulation and open carry regulation policies. The analysis indicated that there is a significant interaction effect of public health framing and personal gun ownership on attitudes toward gun regulations,  $F(1, 327) = 15.24, p < .001$ . However, the relationship between the public health framing on attitudes toward open carry was not qualified by personal gun ownership [ $F(1, 327) = .59, p = .44$ ].

The third research question (**RQ 3**) asked: “Do individuals exposed to competitive framing of gun violence using a public health frame express more positive attitudes toward gun-related policies than those exposed to only a single health frame?” To answer this research question, a series of independent t-tests were conducted on attitudes toward gun regulation and open carry policies between single framing and

competitive framing. The analyses showed that there is a significant difference in attitudes toward gun regulation policies between single framing ( $M = 6.18$ ,  $SD = 1.00$ ) and competitive framing ( $M = 5.75$ ,  $SD = 1.45$ ),  $t(329) = 3.14$ ,  $p < .05$ , two-tailed). However, results from the analyses indicated that there is no significant difference in attitudes toward open carry regulation policies for single framing ( $M = 2.38$ ,  $SD = 1.95$ ) and competitive framing ( $M = 2.30$ ,  $SD = 1.81$ ;  $t(329) = .35$ ,  $p = .73$ , two-tailed).

The fourth research question (**RQ 4**) asked: “Does political orientation moderate the relationship between competitive public health framing and attitudes toward gun-related policies?” To examine whether political orientation moderated the effects of competitive framing on attitudes toward gun regulation and open carry regulation policies, a series of two-way ANOVAs were conducted. Results from these analyses indicated no significant interaction on attitudes toward gun regulation policies, [ $F(6, 317) = .49$ ,  $p = .82$ ] nor was there a significant interaction effect on attitudes toward open carry regulation policies,  $F(6, 317) = .26$ ,  $p = .96$ . To see how effect of single vs. competitive framing is different depending on political orientation, Figure 1 was created. Because political orientation was measured using seven categories from “strong Republican” (as 1) to “strong Democrat” (as 7), strong, weak, and leaning Democratic were recoded as 1, strong, weak, and leaning Republican were recoded 2 (Republican), and independent was recoded as 3 (Independent). As shown in Figure 4.1, single framing induced more positive attitudes toward gun regulation policies than competitive framing across the three different political orientations. Overall, Democrats showed more positive attitudes toward gun regulation policies than Republicans and Independents in both the single and competitive framing conditions. In terms of attitudes toward open carry

regulation policies, as shown in Figure 4.2, competitive framing induced more supportive attitudes toward open carry regulation policies from Democrats than single framing, while Republicans and Independents indicated more support for open carry regulation policies when they were exposed to single framing.

The fifth research question (**RQ 5**) asked: “Does gun ownership moderate the relationship between competitive public health framing and attitudes toward gun-related policies?” To answer RQ 5, a series of two-way ANOVAs were conducted. As the findings from RQ 2 indicated, personal gun ownership interacted with public health framing and this interaction influenced attitudes toward gun regulation policies,  $F(1, 327) = 15.24, p < .001$ . However, an interaction effect between public health framing and personal gun ownership on attitudes toward open carry policies was not found. Although there were also no interaction effects between public health framing and family gun ownership on attitudes toward gun-related policies, family gun ownership was a significant predictor of attitudes toward gun regulation ( $p < .001$ ) and open carry regulation policies ( $p < .001$ ). As indicated in Figure 4.3, participants who don’t have guns in their household showed more positive attitudes toward gun regulations policies in both the single and competitive framing conditions than participants with family gun ownership. As shown in Figure 4.4, participants with no family gun ownership showed more supportive attitudes toward open carry regulation policies than participants with family gun ownership in both the single and competitive framing conditions. While participants with family gun ownership showed more supportive attitudes toward open carry regulation policies in the single framing condition, participants with no family gun

ownership showed more supportive attitudes toward open carry regulation policies in the competitive framing condition.

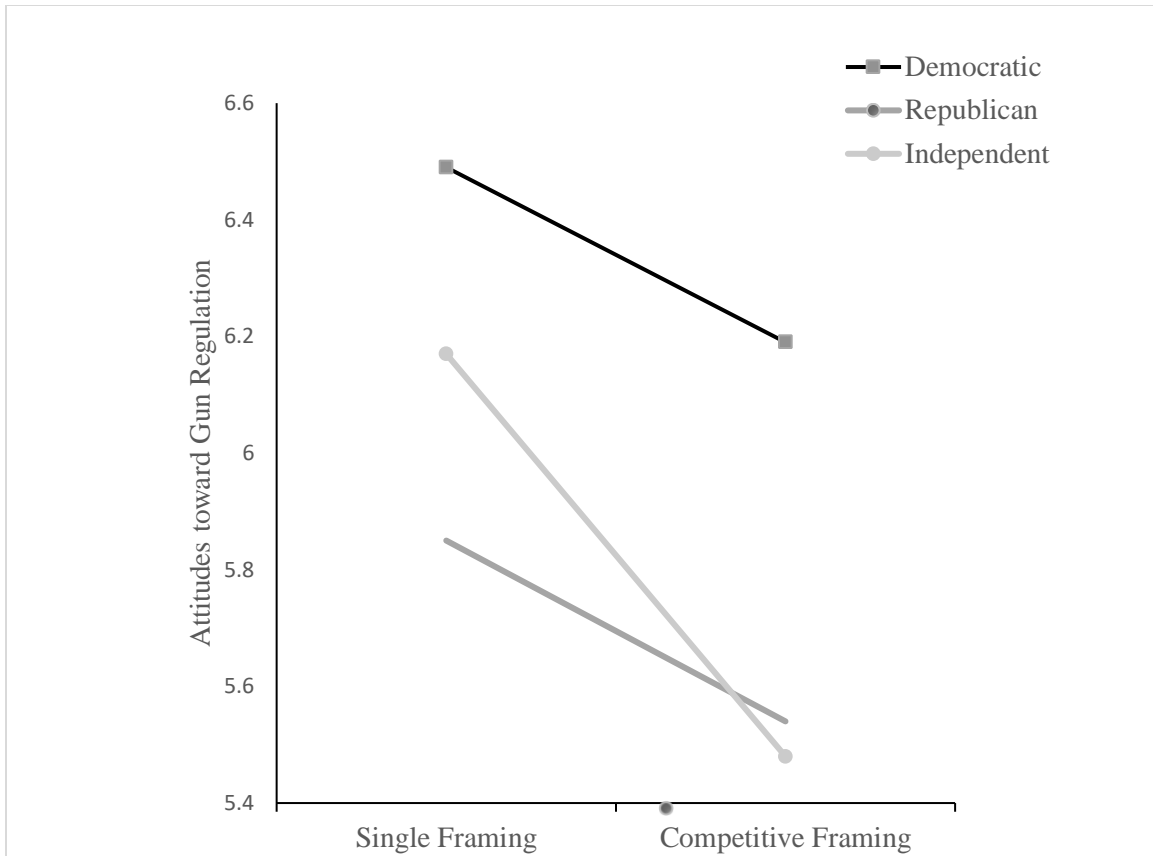
Figure 4.5 indicates that participants with no personal gun ownership showed more positive attitudes toward gun regulation policies than participants with personal gun ownership in both the single and competitive framing conditions. Compared to participants with no personal gun ownership, participants with personal gun ownership showed more positive attitudes toward gun regulation policies in single framing than competitive framing. As Figure 4.6 shows, while participants with personal gun ownership indicated more supportive attitudes toward open carry regulations policies in single framing than competitive framing, participants with no personal gun ownership showed more supportive attitudes toward open carry regulations policies in competitive framing than single framing.

The sixth research question (**RQ 6**) asked: “Do different types of hashtags induce different behavioral responses in terms of willingness to engage in online advocacy? If so, what types of hashtags lead to positive behavioral intentions?” To answer this research question, a simple regression analysis was conducted between public health framing and mean values of online advocacy intention and a positive significant influence on online advocacy intention was found ( $r = .13, p < .05$ ).

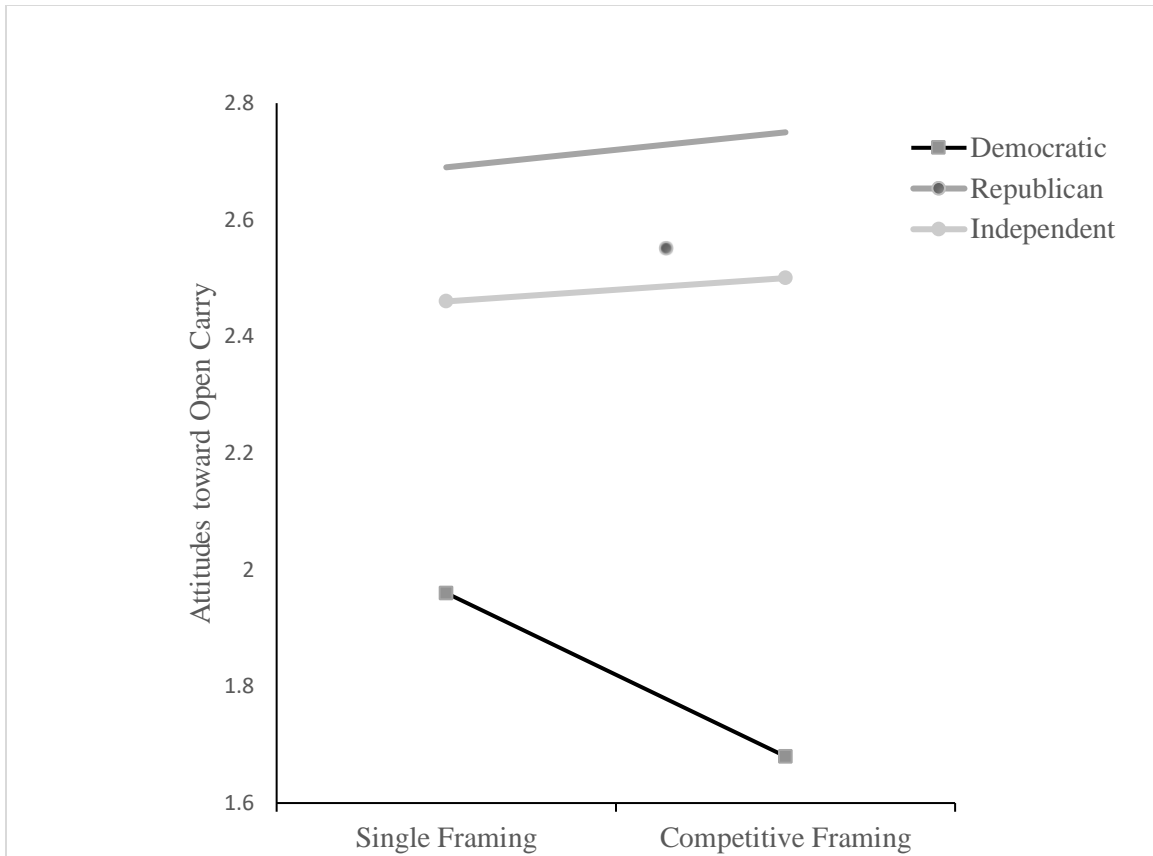
To examine what type of hashtags leads to positive behavioral intentions related to online advocacy efforts, an independent t-test was conducted on willingness to engage in online advocacy between call-to-action hashtags and policy hashtags. The analysis showed that there is a significant difference in willingness to engage in online activism

between call-to-action hashtags ( $M = 4.43$ ,  $SD = 1.72$ ) and policy hashtags ( $M = 3.98$ ,  $SD = 1.80$ ),  $t(329) = 2.35$ ,  $p < .05$ , two-tailed.

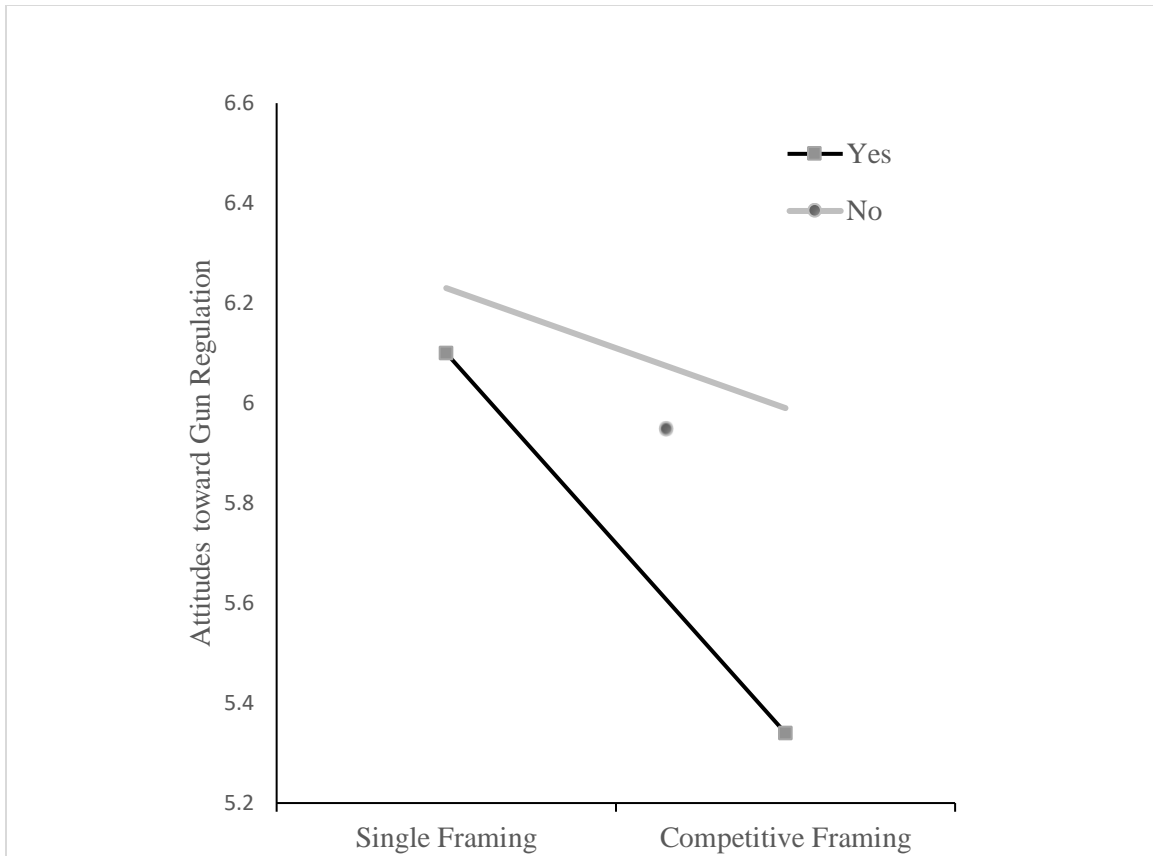
The seventh research question (**RQ 7**) asked: “Does political orientation influence the relationship between the presence of hashtags and willingness to engage in online advocacy?” To answer the RQ 7, a two-way ANOVA was conducted. Analysis indicated that while the presence of hashtags ( $p < .05$ ) and political orientation ( $p < .05$ ) were predictors for individuals’ willingness to engage in online activism, no interaction effect between presence of hashtags and political orientation was found [ $F(1, 327) = .84$ ,  $p = .54$ ].



**Figure 4.1 Public Health Framing X Political Orientation on Attitudes toward Gun Regulation**

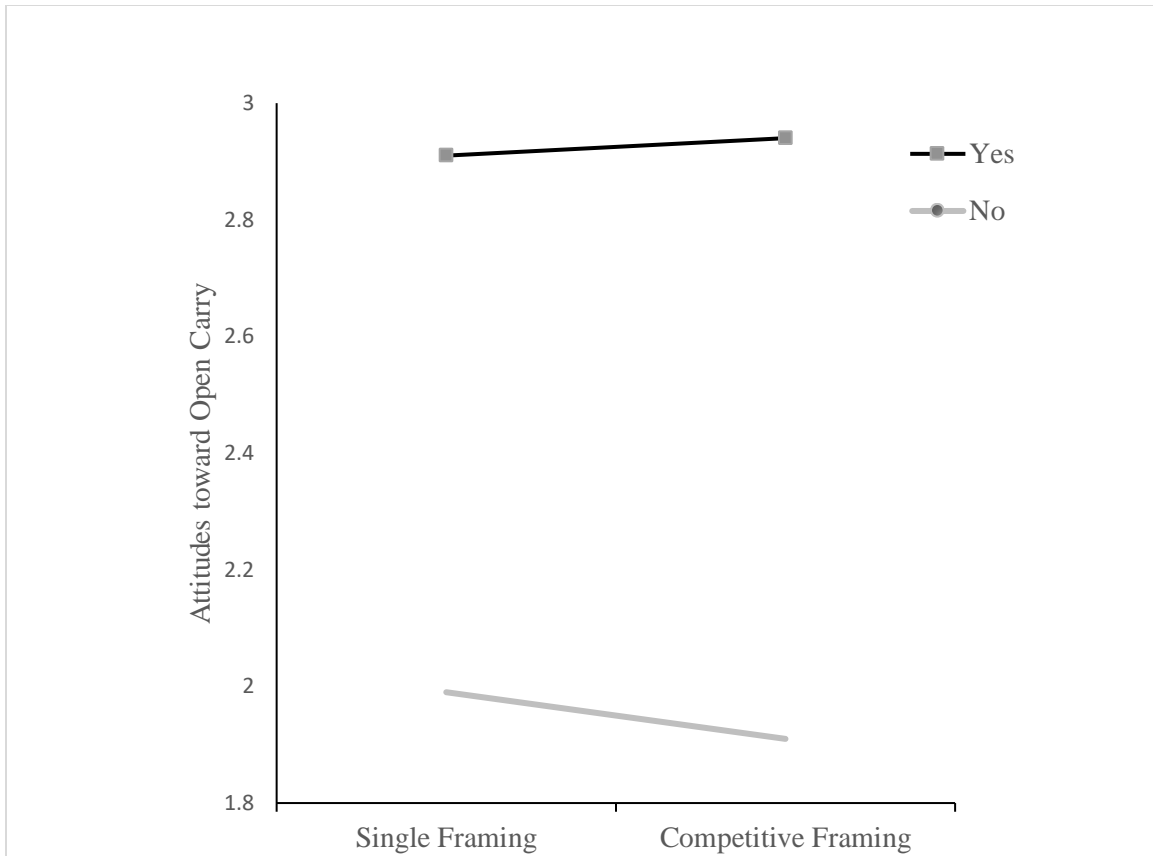


**Figure 4.2 Public Health Framing X Political Orientation on Attitudes toward Open Carry**

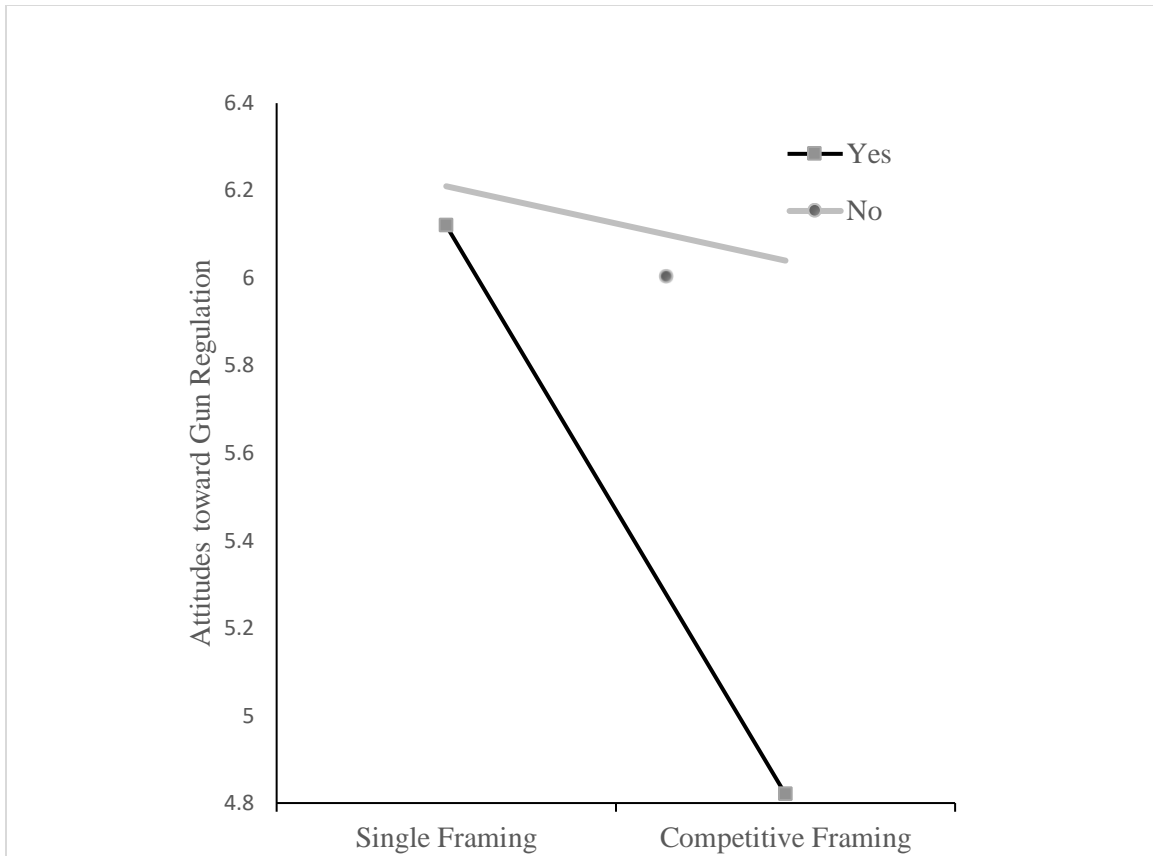


**Figure 4.3 Public Health Framing X Family Gun Ownership on Attitudes toward Gun Regulation**

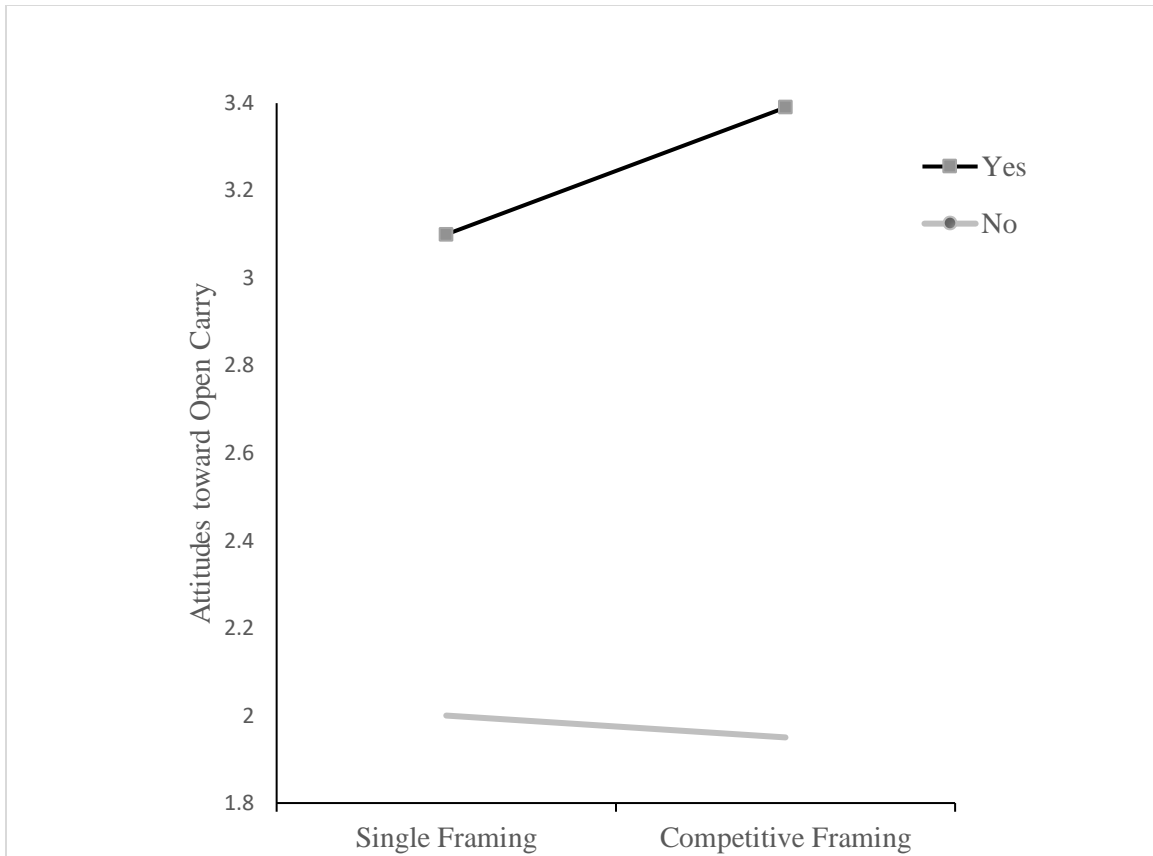




**Figure 4.4 Public Health Framing X Family Gun Ownership on Attitudes toward Open Carry**



**Figure 4.5 Public Health Framing X Personal Gun Ownership on Attitudes toward Gun Regulation**



**Figure 4.6 Public Health Framing X Personal Gun Ownership on Attitudes toward Open Carry**

## CHAPTER 5

### DISCUSSION

This study examined the effects of public health framing on individuals' attitudinal change toward gun-related policies. Using the presence of public health framing and the types of hashtags as manipulated variables, this study conducted an online experiment to understand participants' attitudinal and behavioral changes toward gun safety regulations and online advocacy. Political orientation and gun ownership were examined as potential moderating factors that affect individuals' perceptions of public health framing. The contribution of this research is significant in several ways. First, this study tested public health framing related to gun violence issues, which distinguishes this study from existing research that examines media and framing effects related to gun violence issues. Second, this study applies a widely used public health communication concept (media advocacy) to an active public health crisis. It also broadens a theoretical concept that could be employed to examine health communication tactics and their influence on individuals' perceptions, attitudes, and behavioral intentions toward policies and advocacy efforts. Finally, the findings from this study provide a range of practical implications for gun safety advocacy organizations, communicators, and other health organizations to improve gun safety campaign strategies and tactics in the U.S. by understanding audiences better, shaping strategic messages, and conducting effective campaigns.

This chapter discusses the key findings in terms of theoretical and practical implications. This chapter also provides suggestions for future research in the area of strategic and advocacy communication.

### **5.1 Public Health Framing and Gun Violence**

This study examines the effects of the public health approach to gun violence by proposing the first hypothesis: Individuals will show more positive attitudes toward a gun control policy after they are exposed to a public health frame about gun control than before they are exposed to it. Several explanations may be drawn from the findings related to this hypothesis. A recent article on framing discussed the idea of “preference-based effects” (Cacciatore et al., 2016), wherein the public health approach to gun violence may generate strong framing effects on some individuals, which would interact with individuals’ pre-existing beliefs. Considering that “preference-based effects” occur when messages are consistent with individuals’ beliefs, individuals’ positive attitudinal changes toward gun regulation policies after being exposed to the public health framing suggests that participants are highly likely to value public safety regardless of individuals’ political orientation or gun ownership. Previous health behavior literature has indicated that individuals’ perception of health-related risk is one of the strongest reasons for behavioral change (Maibach & Parrott, 1995; Petrovic, Madrigano, & Zaval, 2014). While this has been found mostly related to individual health behavior changes, it may be that risk perception influences behaviors related to advocacy efforts as well.

Although the finding above is consistent with many framing effects studies, the results indicated that exposure to public health framing of gun violence may encourage many participants to think of gun violence as an issue of public health safety rather than

an ideological discussion (gun control vs. gun rights). Keidan (2014) suggested that engaging public health dialogue related to gun violence can help the public stay away from the partisan paradigm and facilitate practical approaches to gun violence prevention. Moreover, considering that the public health approach to gun violence admits gun rights and encourages safe and responsible gun use instead of taking all guns away from gun owners, these message tactics may influence the attitudes of individuals who have strong beliefs in gun rights and gun use and may help them find common ground on gun violence across ideological lines.

One interesting finding is that while the hypothesized influence on gun access policies was supported, the hypothesized influence on attitudes toward open carry policies was not supported. This seems to be in line with a recent survey regarding Americans' views on guns and gun violence. When asked about the reasons for gun violence, 85% of Americans indicated that illegally obtained guns contributed to gun violence (Pew Research Center, 2017). Survey participants were asked questions about their attitudes toward gun regulation policies to determine how much they agree or disagree with background checks, private gun sales, and assault-style gun purchases. The finding in the current study may also reflect this public sentiment on strong gun regulation policies related to purchasing or obtaining guns, because the public sees the underlying reasons for gun violence as easy access to illegal guns. Although no significant difference was found in the attitudinal changes toward open carry policies before and after being exposed to public health framing, participants still exhibited attitudinal changes toward open carry policies (before:  $M = 2.42$ ,  $SD = 1.86$ , after  $M = 2.34$ ,  $SD = 1.88$ , 1 = strongly oppose to 7 = strongly favor).

## **5.2 Gun Safety Advocacy Campaign and Target Audience**

Previous studies have shown that political orientation, gun ownership, and political knowledge conditioned framing effects related to gun violence. This study aimed to explore the effects of public health framing related to gun violence. The study also sought to test whether public health framing effects are still conditioned by individuals' beliefs and values related to gun rights. The findings suggest that the influence of public health framing on participants' attitudes toward gun-related policy was not conditioned by their political orientation. Consistent with the findings from the first hypothesis, public health and safety have become a critical concern among the general public following a series of mass and accidental shootings, suicides and homicides involving guns during recent years. According to a recent survey regarding Americans' views on guns and gun violence, 50% of Americans said that gun violence is a big problem, and an additional 33% said that it is a moderately big problem in this country (Pew Research Center, 2017). Emphasis on public health safety, preventive action, and community-level solutions related to gun violence may also help individuals view gun violence as an issue of public health rather than an ideological discussion between partisan groups (Keidan, 2014). While political orientation has a significant influence on participants' attitudes toward gun regulations and open carry policies, no interaction between public health framing and political orientation may indicate the persuasive effects of public health framing related to gun violence.

The findings related to RQ 2 indicated that the effects of public health framing on participants' attitudes toward gun regulation policies are conditioned by personal gun ownership. Gun control debates have centered on an ideological battle between

democracy and Second Amendment rights (Steidley & Colen, 2017). Gun safety organizations have focused on emphasizing democratic rights to regulate guns against the Second Amendment and gun rights. Jang (2019) pointed out the ineffectiveness of gun safety campaigns from gun safety organizations, which use mass shooting incidents as impetus for their campaign strategies and put pressure on policymakers. Through a case study of a successful firearm suicide prevention campaign in Utah, Barber et al. (2019) indicated that collaboration with and support from firearm stakeholders is essential to legislative enactment related to gun violence prevention. Barber et al. (2019) also noted that engaging influential opinion leaders in the gun owners' community helped the campaign succeed. Considering that public sentiment on gun regulation does not necessarily lead to strict gun regulation, gun safety advocacy communication using public health framing and targeting gun owners and gun rights groups may help find common ground between the gun safety and the gun rights sides. Moreover, as Barber et al. (2019) and this study's findings indicated, involving more individuals from gun rights and gun owner groups in gun safety communication may lead to gun regulation enactment.

In this sense, more studies with audience segmentation related to gun safety advocacy campaigns are needed in the health communication field. This study is one of the first to test the message effectiveness of public health framing related to gun violence. More experimental studies that test message effectiveness, variables influencing message effectiveness, and how these effects differ depending on audience characteristics should be pursued.



### **5.3 Social Media and Advocacy Communication**

The findings from RQ 3 showed that presenting public health framing as a single frame has more persuasive effects than competitive framing. Presenting public health framing and gun rights arguments may seem adversarial and lead participants to consider the issue of gun violence as a partisan issue rather than a public health problem. Adding the gun rights side argument and presenting both sides seems to decrease public health framing effects. The findings related to single framing effects are also consistent with a previous study (Wise & Brewer, 2010). The findings on public health framing related to gun violence are useful in helping gun safety advocates and organizations effectively shape messages on various social media platforms.

The findings from RQ 4 and RQ 5 suggest some implications for how advocacy communication related to gun violence can target audiences and shape messages differently depending on audiences' political orientation and gun ownership. No significant moderation effect of political orientation was observed on the effects of public health framing on attitudes toward gun access and open-carry regulation policies. However, political orientation remains a significant predictor of respondents' attitudes toward gun-related policies. Overall, single framing is more effective than competitive framing in gun access and open-carry regulation policies. Democrats showed more supportive attitudes on open-carry regulations in the competitive framing than single framing conditions. A possible explanation is that because Democrats are more likely to be supportive on gun regulation policies in general, opposing arguments emphasizing self-defense and legal open carry from the gun rights side in stimuli may evoke Democrats' conformity with their ingroup values and may influence their choices

regarding open carry regulation policies. Pennekamp et al. (2009) discussed that messages from outgroup sources are perceived less positively than ingroup sources. However, competitive public health framing may be perceived less negatively by Republicans because the public health framing focuses more on responsible and safe gun use rather than being completely against the gun rights side. The same pattern was also shown in the findings related to RQ 5. Participants with no family or personal gun ownership indicated stronger supportive attitudes on open-carry regulation policies in a competitive framing setting than in a single framing setting.

The findings from RQ 5 indicated that the effects of public health framing on attitudes toward gun regulation policies are conditioned by personal gun ownership. Although public health framing argues for safe and responsible gun use, the questions related to gun regulation policies restricting individuals' gun access may influence gun owners' concerns about restricting individuals' gun rights and use. Moreover, Seate et al. (2012) argued that gun control messages are negatively perceived by gun owners in general. Some personal gun owners may perceive the key argument of public health framing as gun control or messages against gun rights rather than safe and responsible gun use. This finding suggests the necessity of strategic communication for gun safety advocates and organizations considering how audiences react differently according to their political orientation and gun ownership. These findings related to public health framing are relatively new and need further research to understand the interaction effects between message types and individual characteristics on individuals' attitudinal and behavioral changes toward gun-related policies. However, this research may help gun safety advocates and organizations focus their efforts on effective gun safety

communication in targeting audiences more precisely by understanding their thinking regarding certain gun safety message types. Future research could help explore specific relationships between various message types and individual characteristics and possible interaction effects on attitudinal and behavioral changes.

#### **5.4 Social Media Advocacy and Mobilizing Information**

The test on the effects of public health framing and the use of hashtags as a mobilizing information tactic add weight to the strategic value of media advocacy. Framing and mobilizing information are important parts of media advocacy and have been researched in several studies. While previous studies on media advocacy have focused on media advocacy and public health issues in mass media, the present research aimed to explore the concept of social media advocacy based on the concept put forth by public health scholar, Lawrence Wallack. The findings related to mobilizing information suggest that presenting hashtags significantly influences individuals' willingness to engage in online advocacy, and call-to-action hashtags lead to more willingness to engage in online advocacy than policy hashtags.

These findings underscore the strategic value of media advocacy in the context of social media. The finding related to hashtags in the current study build upon previous research on the tactical use of hashtags. For example, Rho and Mazmanian (2019) found that hashtags in news stories influence individuals' further engagement with the issues. Previous studies have also shown that different types of hashtags lead to different levels of engagements (e.g., Saxton et al., 2015). However, this study is one of few studies that explored the relationship between different types of hashtags and different levels of engagement in an experimental setting.

The findings from RQ 6 and RQ 7 suggest the strategic value of hashtags related to mobilizing information on social media. Considering that mobilizing information often aims to increase public involvement in advocacy actions, presenting hashtags and types of hashtags on social media may be a significant factor to involve more individuals in advocacy efforts. Regarding the type of hashtags, call-to-action hashtags induced more willingness to engage in online advocacy than policy hashtags. Several explanations are possible. First, call-to-action hashtags encourage individuals to take certain actions. For example, hashtags, such as #Be SMART, #BreakthePattern, and #SafeStorage urge individuals to take certain actions related to ending accidental domestic gun shootings. These hashtags may encourage individuals to participate in information and hashtag sharing on social media, as a means of trying to protect those they are connected with on social media. Second, Blevins, Lee, McCabe, and Edgerton (2019) noted how shaping hashtag wording affects individuals' engagement on the issue. For example, #Icantbreathe, #Iftheygunnedmedown, and #handsupdontshoot included first-person personalization of the issue. These personalized messages help people consider issues relatable to their lives by framing the issue as a person, which allows diverse people to engage with the issue. Call-to-action hashtags encourage people to think of gun violence issues as a possible threat to their lives, or to the lives of those close to them on social media, and give a certain direction to take action. This call-to-action hashtag is in line with the concept of "tactical mobilizing information," one type of MI classified by Lemert (1981), which refers to specific directions for audiences to take. Lemert (1984) argued that this "call to action" is important in enabling the public to act, yet it is not typically found in mainstream media coverage (Hoffman, 2006; McKeever, 2013) In

social media, call-to-action hashtags are more common and may motivate people to engage in the issue by suggesting certain directions whereas policy hashtags may remind people of the partisan nature of gun-related policies.

Future research is recommended to explore further mobilizing information strategies influencing individuals' willingness to engage in offline activism beyond online advocacy and activism. Discussing the skepticism often associated with real impacts made by online activism, Dookhoo and Dodd (2019) found some connections between online acts and more "tangible" forms of activism; they noted that more research is needed to better understand the relationship between online and offline activism.

## **5.5 Theoretical Implications**

Through the concept of media advocacy from health communication and mass communication literature, this dissertation used an experiment with 331 respondents to test the strategic value of public health framing and certain types of mobilizing information on social media as part of the media advocacy process, including how those elements may lead to attitudinal and behavioral responses related to gun-related policies.

The main purpose of this study was to examine the effectiveness of public health framing and identify effective messages presented in the social media context. A 2 (single vs. competitive framing) x 2 (call-to-action vs. policy hashtags) experiment suggested that public health framing is an effective message strategy to influence individuals' attitudinal changes on gun-related policies. This study also examined whether and how individual factors, such as political orientation and gun ownership, may influence the effects of certain framing on attitudes and intentions toward gun-related policies.

This study is one of the first to test the effectiveness of media advocacy and public health framing in the context of a controversial social issue. Although the concept of media advocacy has been examined related to various public health issues (e.g., anti-smoking, autism, and sugar-sweetened beverages) in several studies by analyzing news articles, McKeever (2013) called for more research on the framing effects involved in media advocacy through experimental research. Testing the effectiveness of public health framing based on the concept of media advocacy allows for the theoretical framework of media advocacy to be expanded and improved. For example, this study investigated the effects of public health framing on individuals' attitudinal changes toward gun-related policies. Such effects were mentioned in the past, particularly in the context of climate change (e.g., Maibach, Nisbet, Baldwin, Akerlof, & Diao, 2010; Petrovic et al., 2014). However, the theoretical understanding of public health framing as a part of media advocacy is limited and has rarely addressed the issue of gun violence.

As discussed earlier, personal traits and possession of certain objects form group identities (Oliver, 2003; Seate et al., 2012). Although public health framing was effective beyond certain personal traits in this study, individuals' group identity remains a significant factor that affects attitudes toward gun-related policies. Examining the effects of public health framing and some possible individual characteristics that may influence individuals' attitudinal changes on gun-related policies could help develop an adequate and appropriate approach to public segmentation within the U.S. for better gun safety advocacy communication. The findings from this study could be used in future research to explore individuals' attitudinal and behavioral changes with various controversial social issues. The combination of concepts from health communication and mass

communication theories helps us understand the factors that may influence individuals' attitudinal changes related to a controversial social issue.

In tandem with findings from Wise and Brewer (2010), this study also found that single framing is more effective in persuading than competitive framing. While previous studies in single and competitive framing have explained the framing effects based on each argument's strength and persuasiveness (Chong & Druckman, 2007; Hansen, 2007; Sniderman & Theriault, 2004), the present study examined the effects of single and competitive framing based on the notion of "preference-based effects," which occur when messages are consistent with individuals' beliefs, by considering individual traits and group identities as a significant part of the factors influencing framing effects.

The findings related to public health framing and hashtags broadens the concept of media advocacy by studying different media platforms and controversial social issue contexts. These findings may contribute to the conceptual advancement of the concept of media advocacy in strategic communication.

## **5.6 Practical Implications**

Although gun safety advocates' efforts on a public health approach to gun violence have been ongoing since 2003, a recent content analysis study related to gun violence shows that news coverage has not reflected the public health frame in terms of defining the causes and solutions of gun violence (DeFoster & Swalve, 2018). Although public support on gun safety policies has been increasing, public opinion on the issue has not led to the enactment of stricter gun regulations, which may indicate a need for more effective advocacy efforts from gun safety advocates and organizations.

Considering that the first and second steps of the media advocacy process have been proposed to be agenda-setting and issue framing, gun safety advocates and organizations should exert extra effort to frame the gun violence issue as a public health problem on various media platforms. Moreover, social media have become an active tool for advocacy organizations with limited resources to mobilize people and information. Shaping effective messages toward target audiences may help organizations implement effective advocacy campaigns. Public segmentation is an important part of strategic communication management (Hallahan, Holtzhausen, Van Ruler, Verčič, & Sriramesh, 2007). Public health communicators and campaigners can shape customized messages and implement campaigns to reach the right audiences with the right messages through selected media channels by identifying individuals' characteristics and dividing audiences into subgroups based on their characteristics. Considering the importance of audience segmentation regarding gun safety advocacy campaigns, dividing target audiences depending on individuals' gun ownership, political orientation, and residential proximity to gun violence incidents may help gun safety advocacy communicators implement better communication strategies that might lead to tangible results.

Finally, findings in this study related to the use of hashtags also provide meaningful practical implications. Saxton et al. (2015) indicated that hashtags increase public engagement, and different types of hashtags lead to different levels of engagement. This study also provided some practical implications for advocacy communicators and strategic communicators on social media platforms. This study showed that participants were more likely to engage with online activism when exposed to call-to-action hashtags. One of the advantages of using a hashtag is the activation of individuals to participate in



action communities (Saxton et al., 2015). Call-to-action hashtags provide individuals specific directions on how they can be involved with the issue, much like tactical mobilizing information. It has been said that media advocacy leaves out opinions from individuals or group members in the subaltern (Gibson, 2010); these individuals or group members could play an important role in setting the agenda and framing the issue on social media, and the whole agenda setting and framing process could influence the media agenda (McCombs, 2014). Individuals and group members that mobilize information voluntarily and further engagement in online activism activate social media advocacy communication. Mobilizing information and further engagement in online communities may be helpful in spreading information, reaching out to potential publics, and setting the agenda for the media, the general public, and policymakers. Therefore, using strategic messages, engaging the public, and giving the public certain directions for further engagement while shaping persuasive messages in a certain way are important in influencing individuals' attitudinal and behavioral changes related to the issue(s) that organizations promote.

## **5.7 Limitations and Future Research**

While this study makes several theoretical and practical contributions, it has certain limitations as well. This section addresses the limitations of this study and discusses directions for future research. First, because the stimuli focused on public health framing that emphasizes safe and responsible gun use, the language of the stimuli led some participants to consider public health framing as gun rights messages in the pretest stages. Significant changes had to be made throughout a series of pretests to get participants to perceive the messages as gun safety messages. Therefore, the language in

the stimuli had to emphasize more general terms of public health framing, such as “public health approach,” “responsible gun use,” and “safety.” Considering that one of the purposes of this study is to test public health framing messages targeting pro-gun rights populations, the messages admitting gun rights and encouraging safer gun use could be effective in targeting pro-gun rights individuals or groups. Future studies need to be more careful in shaping messages to represent a public health frame. Additionally, researchers may test further effective public health framing aspects that might influence persuasive effects depending on target audiences’ characteristics.

Second, this study was conducted as an online experiment that essentially took a short-term snapshot of participants’ perceptions of the messages from fictitious gun safety and gun rights groups. While experimental research may help examine the message framing effects, longitudinal studies could contribute to the exploration of the media advocacy process, including framing, and various effects on individuals, organizations, and policy changes.

Third, although the sample adopted a quota sample in terms of gender, age, and political orientation to test a representative sample of the American population, Qualtrics users are still limited in terms of the generalizability of the findings. Testing with more representative samples or larger populations in future research would help add to the generalizability of these findings.

Fourth, while this study focuses on Twitter messages in a social media advocacy context, the way Americans consume the news and acquire information is varied (Pew Research Center, 2016). Hence, future research should continue to explore the effectiveness of public health framing across different social media platforms and

traditional media settings, such as television news, newspapers, and other media platforms.

Finally, this study considered political orientation and gun ownership as two important moderators that might affect individuals' attitudinal and behavioral intention responses based on literature (Haider-Marketl & Joslyn, 2001; Jang, 2019; O'Brien et al., 2013). Previous studies have found framing effects related to gun violence news coverage with various individual-level mediators (e.g., emotions; Lecheler et al., 2015) and moderators (e.g., proximity to a mass shooting; Newman & Hartman, 2019). Additional individual factors could be tested in various public health framing effects contexts. Seeing how results might differ because of different moderators and mediators would be interesting and add to existing research on media advocacy and framing.

This study provides relevant findings and proposes a new approach to examine message framing effects on attitudes and intentions related to gun-related policies. The same experiment could be adapted to other samples in the U.S. or to certain groups, such as gun rights or gun owners in large populations. Seeing the similarities and differences in the findings among different populations would be meaningful related to this issue, and of course, other issues could be studied in similar ways to contribute to theoretical and practical implications related to media advocacy and strategic communication.

## **5.8 Conclusion**

This study examined the effectiveness of public health framing related to gun violence and contributes to the understanding of how public health framing affects individuals' attitudinal responses toward gun-related policies. This study also explored effective strategic communication to influence individuals' willingness to be involved in

online advocacy. The findings provide theoretical and practical contributions and suggest future directions for strategic communication related to gun safety advocacy. Future research can help to broaden and develop the concept of media advocacy and enhance the validity and generalizability of the findings from this study.

In the realm of strategic communication related to gun violence, the most important goal is to influence individuals' perceptual, attitudinal, and behavioral responses regarding gun-related policies. This study examined the strategic communication effectiveness of public health framing and mobilizing information based on the concept of media advocacy. This study can help develop strategic communication and campaign plans for gun safety advocacy organizations and contribute to the development and broadening of the concept of media advocacy by continuing to explore strategic communication and its influence on individuals related to gun violence.

Finally, considering the increasing threat of gun violence and following public discussion on the issue, this study is timely and relevant and can help foster a comprehensive understanding of health communication in the context of strategic communication on related concepts. The findings from this study contribute to strategic communication in public health by enabling better understanding of message effectiveness and factors that affect individuals' attitudes and intentions in the context of gun violence and other public health-related issues.

*5.8.1 Summary of Suggestions for Future Gun Safety Advocacy.* Based on the findings, the following suggestions are proposed for future campaigns of gun safety advocacy organizations:

1. Emphasis on public health safety, preventive action, and community-level solutions related to gun violence may help individuals view gun violence as an issue of public health rather than an ideological discussion between partisan groups.

2. Collaboration with and support from firearm stakeholders is essential to legislative enactment related to gun violence prevention.

3. Campaigns targeting gun owners and gun rights groups may help find common ground between the gun safety and gun rights sides of this issue.

4. Considering the effects of public health framing are conditioned by political orientation and personal gun ownership, gun safety advocates and organizations need to set up strategic communication plans more precisely depending on target audiences.

Targeted messages may be needed for different groups.

5. Presenting hashtags significantly influences individuals' willingness to engage in online advocacy.

6. Call-to-action hashtags induce more willingness to engage in online advocacy than policy hashtags.

#### *5.8.2 Summary of Lessons Learned and Suggestions for Future Experiments.*

Based on a series of pretests during this dissertation process, the following suggestions are proposed for future dissertations using experiments as a method:

1. While constructing stimuli and manipulation check questions, frequent communication with committee members and involving them from early stages in the experiment setup is important to avoid problems and last-minute revisions.

2. During a series of pretests, all the processes and changes need to be recorded for the methods section.

3. Stimuli and manipulations should be simple and easy to differentiate for a general population. In order to do that, stimuli and manipulations should be reviewed by multiple people before launching pretests.

4. Wording of manipulation check questions should be detailed and easy to understand for a general population; having many people review these items may help researchers. Often times, researchers don't recognize the technical or academic terms they use so reviewing the questions with a general population may help.

5. Having enough time and planning and working ahead helps researchers determine weaknesses of their experimental design, stimuli, and manipulation. More than likely, more time than the researcher expects will be needed to conduct a successful experiment or series of experiments.

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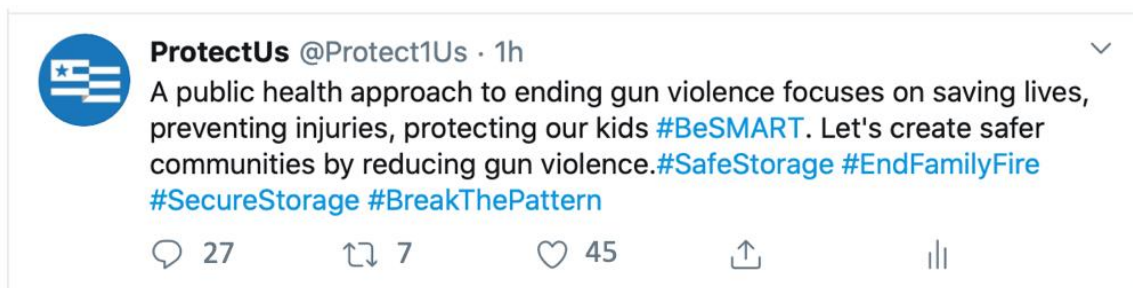
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APPENDIX A

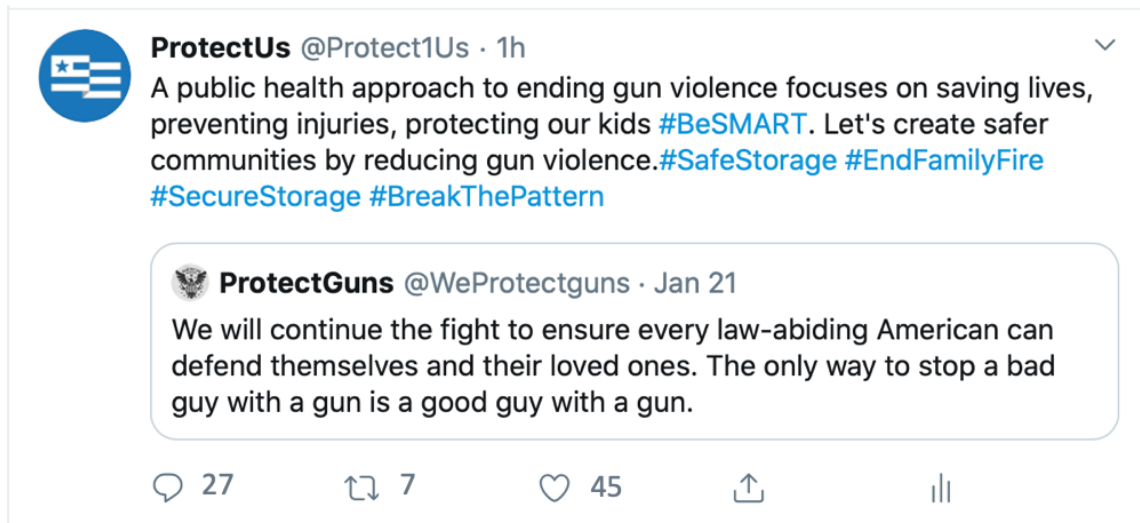
STIMULI EXAMPLES



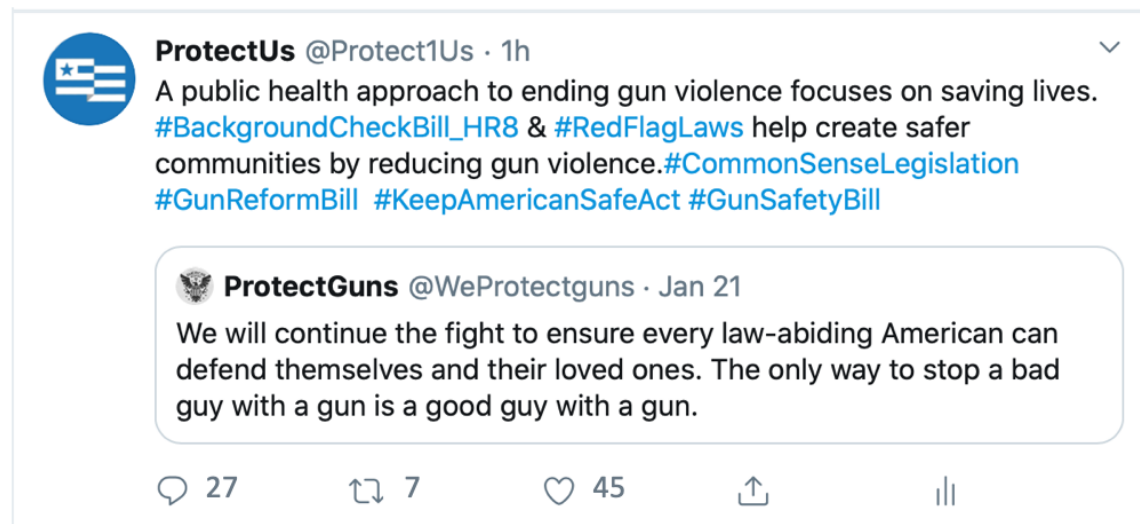
**Figure A.1 Single Framing x Call-to-action Hashtag**



**Figure A.2 Single Framing x Policy Hashtag**



**Figure A.3 Competitive Framing x Call-to-action Hashtag**



**Figure A.4 Competitive Framing x Policy Hashtag**

## APPENDIX B

### MEASURES

#### **Questions for quotas**

Which of the following best describes how you think of yourself?

- a. Male
- b. Female
- c. In another way

What is your age?

- a. 19-25 years old
- b. 26-34 years old
- c. 35-54 years old
- d. 55-64 years old
- e. Over 65 years old

Which of the following labels best defines your political affiliation?

- a. Democrat
- b. Republican
- c. Independent
- d. No preference
- e. Other (please specify)

#### **Attitudes toward gun regulations**



- 1) The tweet contained one tweet message. The tweet was focused on reducing gun violence (e.g., talked about making communities safer)
- 2) The tweet contained one tweet message. The tweet was focused on protecting gun rights (e.g., talked about how guns can help defend us)
- 3) The tweet contained two tweet messages (original tweet and retweet). The original tweet and retweet contained information about BOTH topics (reducing gun violence AND gun rights)

#### Call-to-action vs. Policy hashtags

The tweet you just read included hashtags. The hashtags were related to...

- 1) Safer gun storage
- 2) Specific gun-related policy/bill names
- 3) None of the above

#### **Willingness to engage in online advocacy**

Please indicate how likely you are to do the following things.

Very unlikely    1        2        3        4        5        6        7        Very likely

Sign an online petition to tell the government to pass gun safety policy

Share online content to encourage others to participate in gun safety advocacy (e.g., tweeting or retweeting information, sharing a link, or clicking 'Like')

Chat online with people you know about the need to engage in gun safety advocacy

Write your own tweet about the need to engage in gun safety advocacy

Provide hashtags to other information about the campaign or organization

Upload materials related to the campaign or organization to social media (e.g., photos, videos)

## **Demographic Questions**

What is your age? \_\_\_\_\_

What do you consider your primary race or ethnicity?

- a) Hispanic or Latino
- b) Black or African American
- c) Asian
- d) White or Caucasian
- e) American Indian or Alaska Native
- f) Native Hawaiian or Other Pacific Islander
- g) Check all that apply

In which state do you live? Alabama- AL (1) ..... Wyoming -WY (50)

What is the highest level of education you have completed?

- a) Some high school
- b) High school graduate or GED
- c) Some college
- d) Four-year college graduate
- e) Graduate degree

What is your annual household income from all sources before taxes?

- a) Under \$25,000
- b) \$25,000 - \$49,999
- c) \$50,000 - \$74,999
- d) \$75,000 - \$99,999
- e) \$100,000 - \$199,999

f) \$200,000 or more

**Political orientation**

Generally speaking, how would you identify yourself politically? (Strong republican = 1, Independent = 4, Strong Democrat = 7)

I identify myself